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Record of Decision

TRANSCOLORADO GAS TRANSMISSION PROJECT

Colorado/NewMexico

U.S. Department of the Interior
Bureau of Land Management
Montrose District Office, Montrose Colorado

U.S. Department of Agriculture
U.S. Forest Service
San Juan, Grand Mesa, Uncompahgre and Gunnison National Forests

December 1992

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the authorized ROW are to be disturbed. Any additional TUP's will be issued by the appropriate land manager only after additional site-specific environmental analysis is completed.

The environmental protection measures contained in the EIS Tables 2-12 and 2-13 will be incorporated into the final Plan of Development (POD). Tables 2-12 and 2-13, which are required to be used in the project, are attached to this ROD for reference (Attachment 1). The final POD will be completed and approved by the BLM and USFS prior to issuance of any construction related Notice to Proceed (NTP). If the environmental protection measures are not included in the POD to the satisfaction of the USFS & BLM no construction related Notice to Proceed (NTP) will be issued. The delegated authority for this decision is detailed in memoranda from the BLM Director dated June 20, 1990, and the Colorado State Director to the District Manager dated February 16, 1990.

This decision is made under the authority of the Mineral Leasing Act of 1920 as amended, the implementing regulations contained in 43 CFR 2800 and 2880, and the policy guidance contained in BLM Manual 2800.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

On January 25, 1990, TransColorado filed a ROW application to construct, operate, maintain and terminate a natural gas pipeline on BLM and USFS managed land in western Colorado and northwestern New Mexico. The proposed pipeline would be 306 miles long. The outside diameter would be 22 inches for a distance of 264 miles, and 24 inches for a distance of 42 miles. The design flow rate would be 300 million cubic feet of natural gas per day (MMcfd). Approximately 52 percent of the proposed route would be on BLM and USFS land.

Associated with the pipeline are 6 compressor stations and 6 meter sites. The compressors will occupy approximately 5 acres each and the meter sites about 1/4 acre each.

The application triggered the preparation of the EIS. The BLM, in consultation with the USFS and TransColorado, selected a third party contractor, ENSR Consulting and Engineering, to prepare the EIS.

As the lead agency, BLM evaluated three alternatives in detail in the EIS. These alternatives include the proposed action (described above), the agency preferred action, and the no action alternatives.

The Agency Preferred Alternative is 290 miles in length. The outside diameter would be 22 inches for a distance of 248 miles and 24 inches for a distance of 42 miles. Compressor and metering facilities would be the same as the proposed action. Approximately

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RECORD OF DECISION
TRANSCOLORADO GAS TRANSMISSION PIPELINE
COC-51280

Prepared by: Bureau of Land Management
Montrose District Office
Montrose, Colorado

INTRODUCTION

This Record of Decision (ROD) relates to the right-of-way (ROW) application filed by TransColorado Gas Transmission Co. (TransColorado) to construct a 22 inch and 24 inch diameter natural gas pipeline in western Colorado and northwestern New Mexico. An Environmental Impact Statement (EIS) has been prepared for the ROW application. The EIS addresses the general setting of the proposal, purpose and need, proposed action including alternatives, environmental protection measures, affected environment, environmental consequences, and overall consultation and coordination activities. The Bureau of Land Management (BLM) was the lead Federal agency for the EIS. Other Federal cooperating agencies in the preparation of the EIS were the U.S. Forest Service (USFS), the Federal Energy Regulatory Commission (FERC), the U.S. Fish & Wildlife Service (USF&WS), the U.S. Army Corps of Engineers (COE) and the National Park Service (NPS). This ROD relates only to the Federal lands under the jurisdiction of BLM. The BLM has the discretionary authority to grant rights-of-way (ROW) on this project across BLM administered public lands. In addition, the BLM is charged with issuing all ROW grants that fall under the authority of Section 28 of the Mineral Leasing Act of 1920 across National Forest System Lands. The BLM will issue these grants only after the USFS issues a ROD approving the location of the pipeline through the National Forest System Lands, as described in the EIS.

The FERC is responsible for environmental impact mitigation on state and private lands crossed by ROW's of this kind.

DECISION

On this date, I approve the issuance of a ROW grant (COC-51280) across BLM and USFS land (see USFS ROD) to TransColorado Gas Transmission Co. for the construction, operation, maintenance, and eventual termination of a natural gas pipeline and associated facilities located along the Agency Preferred Routing Alternative described in the final EIS. The permanent ROW will be limited to 50 feet in width with an additional temporary work space limited to 25 feet for the majority of the length of the pipeline. In areas where visual concerns were identified on the edge of the Grand Mesa between MP 74.0 and MP 75.7, the total ROW width will be limited to a maximum of 50 feet. TransColorado will be required to obtain additional temporary use permits (TUP) if Federal lands outside of

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47 percent of this alternative is located on BLM and USFS land. The routing for the Agency Preferred Alternative is nearly the same as the proposed action except in two locations where the routing is changed in order to avoid impacts to the human environment. For further details on the Agency Preferred Alternative refer to the EIS.

Under the No Action Alternative the project would not be constructed. It is anticipated that an alternative pipeline proposal would be presented to permitting agencies if the TransColorado pipeline is not built. The expected consequences of not building this pipeline to natural resources and to natural gas producers are described in the EIS.

Other alternatives considered but eliminated from detailed analysis are: 1) the energy conservation alternative, 2) a different pipeline system alternative, and 3) end use pipeline alternatives.

MANAGEMENT CONSIDERATIONS

The following information taken from the BLM 2800 Manual paraphrases the pertinent parts of the Director's policy concerning the granting of ROW's.

It is the policy of the BLM to: 1) authorize all ROW uses on public and Federal lands ... in the most efficient and economical manner possible ... 2) manage ROW use of the public land through a system of ... ROW corridors, 3) maximize the use of performance stipulations through the use of construction, operation and maintenance plans ..., and 4) assure to the greatest extent possible that all identified impacts are mitigated and that the terms and conditions of the right-of-way grant are complied with.

My decision to issue a ROW grant and necessary temporary use permits for this action is consistent with BLM policy. In addition, TransColorado has followed existing utility corridors to the greatest extent possible in the routing process. They have also proposed environmental protection measures in their application and draft POD which will minimize the need to attach numerous stipulations to the ROW grant. Monitoring and environmental compliance during construction will insure that the environmental protection measures are completed.

This decision fully recognizes the FERC's role in directing the nation's development of energy resources in relation to supply sources and market needs. The FERC has issued its order "Preliminary Determination on Non-Environmental Issues" approving the project subject to a final order addressing environmental aspects of the project. Following acceptance and adoption of the final EIS by FERC, the FERC will issue a final order approving or denying the requested FERC Certificate of Public Convenience and Necessity.

This decision also recognizes other major authorizing documents necessary for this project. A complete listing is included in the EIS (Table 1-3 page 18).

Attached to this decision is documentation of the USF&WS review of the Biological Assessment. This review is expressed in the final Biological Opinion (BO), which is attached (Attachment 2). The final BO agrees with the Biological Assessment that no Threatened and Endangered Species will be jeopardized as a result of this project. The BO recommends a total of 8 conservation recommendations in the body of the report. Those recommendations are hereby adopted and become a part of this decision. Further, the BLM conditions this decision to retain jurisdiction should Section 7 consultation need to be re-initiated.

Also attached is project concurrence by the Colorado and New Mexico State Historic Preservation Officers (SHPO) and the Advisory Council on Historic Preservation of the Treatment Plan which fulfills the requirements of Section 106 of the National Historic Preservation Act (36 CFR 800) (Attachment 3, 4, and 5).

The company's proposed route was not chosen as the Agency Preferred Alternative in the Norwood area and in the Mancos Valley area. The agency preferred alternative was chosen as a result of significant public input. In addition, the agency preferred alternative shortened the overall length of the pipeline project and thus there is less area disturbed. Appendix B of the EIS discusses the various routing alternatives and comparisons of impacts on all route segments including the routes in the Norwood and Mancos Valley areas.

Most environmental impacts resulting from the project would be short term. Impacts studied in the EIS include the following: Air Quality and Noise, Topography, Leasable Minerals, Mineral Materials, Surface Water Quality, Municipal Watersheds and Water Supplies, Water Projects, Wetlands, Soils, Prime and Unique Farmland, Forestry, Livestock Grazing, Wildlife, Fisheries, Threatened and Endangered Species, Cultural Resources, Native American Religious Values, Paleontological Resources, Visual Resources, Transportation Systems, Solid waste Facilities, Socioeconomic Conditions, and Public Safety. The summary discussion in the first few pages of the EIS succinctly lays out the anticipated impacts.

The environmental protection measures listed in Table 2-12 and 2-13 of the EIS will be incorporated into the final POD. There will be no Notice to Proceed issued for construction until the POD is accepted by the BLM and USFS. This will insure that all environmental protection measures identified are fulfilled.

MITIGATION & MONITORING

The BLM & USFS adopted all practicable measures designed to mitigate and avoid impacts. During preparation of the EIS TransColorado agreed to over 200 environmental protection measures which apply to this project. These measures apply to Federal lands and are listed in Table 2-12 and 2-13 of the EIS. The measures will also be included in the final POD. The POD will become a part of the ROW grant by reference.

Environmental compliance specialists under the control and direction of BLM and the USFS will be hired to insure that protection measures are completed.

PUBLIC INVOLVEMENT

This project has been subject to intensive public scrutiny since initiation of the EIS. The following is a chronological listing of opportunities for public involvement during the preparation of the EIS.

March 8, 1990 -	Notice of Intent published in the Federal Register
June 12-13, 1990 -	Governmental Agency Scoping Meetings
July 24 through - October 10, 1990	Public Scoping Meetings - a total of 9 meetings.
August 1991 -	Draft EIS released for public comment
September through - October 1991	Public hearings on Draft EIS - a total of 4 meetings
July 1992 -	Final EIS issued

In addition to the formal opportunities mentioned above, in excess of 50 informal meetings were held with county officials, local landowners, and interested parties.

This completes my Record of Decision for the TransColorado Gas Transmission Pipeline Project.

Alan L. Kesterke
Montrose District Manager

DEC. 1 1992
Date

ATTACHMENT 1

TABLE 2-12

TransColorado Gas Transmission Project
Environmental Protection Measures
for Federal Lands

The measures listed in this table will be attached as written to the BLM and USFS ROW grant. These measures are required unless waived by the Federal authorized officer or Federal project inspector and, where applicable, the Federal line manager. Prior to issuing a waiver, the affected land management agency will conduct an environmental review to determine if additional analysis is needed.

AIR QUALITY

1. Federal, state, and local air quality emission standards and regulations will be met.

2. Water, or other means, to control dust will be provided in accordance with Federal, local, or state requirements.

3. Construction and operation equipment will be properly maintained to reduce emissions.

4. Dust abatement procedures shall be used at all times when working within 500 feet of the power transmission line ROW, unless waived by the owner/operator of the power line.

5. Compressor stations will be designed to limit noise levels to 50 dBA at all occupied residences between 7:00 p.m. and 7:00 a.m., and 55 dBA during the day.

TOPOGRAPHY

1. In areas of unstable slopes, active faults, and locations of mines, proper mitigation will be developed (e.g., alternate locations, stronger pipe, installation of monitoring equipment, installation of block valves to isolate area, use of low-density backfill to allow for pipe movement, subsurface drainage, and buttressing) from geotechnical investigations completed during engineering of the pipeline.

2. Site-specific geotechnical evaluations of compressor sites will be conducted prior to construction to determine foundation requirements.

3. Fault crossings will be assessed and site-specific mitigation measures will be developed (i.e., thicker pipe walls, shut-off valves, and low-density backfill) to maintain safety of pipeline.

MINERALS

1. To ensure that the owner of coal lease C-029889 does not lose the potential to mine the coal under the pipeline, a condition will be attached to the ROW grant. Basically, if the mine plan is required to be modified to provide subsidence protection for the pipeline, the ROW holder will be required to make changes in the location, operation, or design of the pipeline such that the mine plan can proceed without modification. This condition will be spelled out in greater detail in the ROW grant.

Table 2-12 (Continued)

SURFACE WATER QUALITY

General Construction

1. Sediment filter devices will be installed, inspected, and repaired to minimize sedimentation where needed or required.

2. Proper riprap application or other techniques will be used to stabilize stream banks where needed or required.

3. Proper water management techniques will be used to prevent silt from entering water channels.

4. Natural drainage will be protected and restored to original contour and patterns to reclaim site.

5. Drainage structures will be installed as necessary to maintain natural surface drainage.

6. Sediment filter devices will be maintained at base of slopes located adjacent to streams until ROW revegetation is complete.

7. The pipeline will be located at least 50 feet from springs unless waived by the affected line manager and the authorized officer.

8. Exact locations of water wells will be determined prior to construction and the pipeline rerouted to maintain a minimum of 50 feet of clearance from the well.

9. Should a water supply well or spring be adversely affected during construction, an emergency source of potable water will be provided until TransColorado has restored the system. Such repairs will be made immediately following construction in that immediate area.

10. In narrow and deep channels with a flat bottom and little likelihood of further incision, 4-foot depth of pipe burial will be extended laterally from the channel center line a total distance of 3 times the channel depth. The side walls of the cut in the channel bank will be laid back at an angle of 1.5:1 (horizontal:vertical).

11. In deeply incised channels (V-notched cross-section) pipe will be buried 6 feet below channel bed; depth of burial will be extended laterally from the channel center line a total distance of 3 times existing channel depth. The side walls of the cut in the channel bank will be laid back to a slope of 1.5:1.

12. To protect groundwater from accidental fuel spills and contamination, no vehicles will be fueled within a 200-foot radius of all private wells and a 400-foot radius of all municipal water wells.

13. USFWS, the State Fish and Game Departments, and EPA will be consulted regarding withdrawal and disposal of hydrostatic test water.

14. No dredged or fill material will be discharged in the proximity of a public water supply intake (municipal watersheds).

15. A spill prevention and countermeasure plan will be included in the construction contract specifications.

Table 2-12 (Continued)

Stream Crossings

1. Staging areas will be located at least 100 feet from stream bank on BLM and on USFS lands to maintain buffer zone and avoid water pollution unless waived by the affected line manager and the authorized officer due to topographic restrictions.

2. No storage of fuels or petroleum products will be allowed within 100 feet of any stream bank to avoid water pollution.

3. Perennial stream crossings will be constructed during the low water period or as approved by the authorized officer.

4. State-issued stream crossing permits will be obtained, if required.

5. Section 401 water quality certification waiver will be obtained if required.

6. Stream crossing will be constructed perpendicular to the channel as engineering and routing conditions permit to minimize length of disturbance.

7. Stream banks will be backfilled as close as possible to original contour, using gravel or riprap, if necessary.

8. Construction equipment in flowing streams will be limited to that needed to construct the stream crossing. Other construction equipment will cross streams on culverts or portable bridges to reduce sedimentation and bank degradation.

9. Minor perennial stream crossings (streams less than 10 feet wide) will be completed within 24 hours, if possible.

10. Major stream crossings (streams more than 10 feet but less than 100 feet wide) will be completed within 72 hours, if possible.

11. Site-specific construction plans will be submitted to applicable federal agencies for crossing all rivers wider than 100 feet.

12. Authorities responsible for potable water supplies located within 3 miles downstream will be notified at least 72 hours prior to instream work.

13. State authorities will be notified at least 48 hours prior to commencement of instream trenching or blasting in major stream crossings.

14. Trench breakers, to prevent groundwater migration, will be installed at the pipeline trench entrance and exit of all encountered wetlands and shallow aquifers, including those associated with streams and rivers.

15. Low-water crossings will be constructed so as not to block or restrict the existing channel.

16. Low-water crossings will be rehabilitated using material removed during construction to avoid new borrow areas.

Table 2-12 (Continued)

17. Flow of spoil off ROW will be prevented to minimize downstream sedimentation.

18. Stream flow will be maintained to protect fisheries and aquatic habitat during construction of stream crossings.

19. The ROW will be aligned to avoid individual trees, snags, or groups of trees, which are significantly taller than the surrounding trees or which are located in an otherwise treeless area. In riparian zones where the riparian woodland consists of scattered old cottonwoods with an understory of seedling or sapling cottonwoods, the ROW will be aligned to remove the smallest possible number of old cottonwoods, with avoidance being preferable.

20. Irrigation ditches and canals will be periodically monitored for two seasons after construction to ensure the integrity of the ditch and canal banks.

21. All permanently lined irrigation ditches and canals will be bored unless waived by the authorized officer and irrigation company.

22. Mudboards will be installed to provide a working surface for equipment on unstable areas as determined by the authorized officer.

23. On streams less than 10 feet wide and considered an important fishery, the dry ditch method of construction will be used using flume pipe.

24. Rock waterways may be constructed for bank stabilization where high seasonal flows are expected. Only one cubic yard of material per running foot will be placed below the ordinary high water mark. This activity would require approval by the Corps under a Nationwide permit, a regional bank stabilization permit, or an individual permit.

25. Major stream crossings will be by the open-cut trench method utilizing tracked backhoes.

26. Abandoned water diversions will be plugged and filled to prevent trapping fish.

27. Streambed sediment at the Dolores and San Miguel River crossings in Colorado will be tested for mine waste sediment contamination. If contaminants are found, a site-specific mitigation plan to reduce or prevent re-suspension of contaminated sediments will be prepared and submitted to the authorized officer. Excavated sediments that are found to be contaminated will be disposed off-site in accordance with all local, state, and Federal regulations.

28. Streambed sediment at the La Plata and Animas River crossings in New Mexico will be tested for polycyclic aromatic hydrocarbons (PAH). Sampling and analytical testing methods will be reviewed and approved by the USFWS New Mexico Field Office and COE prior to implementing the sampling program. If contaminants are found, TransColorado will initiate discussions with the USFWS to develop site-specific protection measures.

29. The pipeline will be buried below the maximum estimated scour depth of a 100-year flood at all stream crossings.

30. Pipeline protection measures will be taken where erosional processes over time reduce pipeline flood protection.

31. All aboveground facilities will be located outside of 100-year floodplains.

32. Major storage yards used during construction will be located outside of 100-year floodplains.

Water Use

1. Water withdrawal permits will be obtained for hydrostatic testing and dust control to protect water rights.

2. Proper intake procedures will be used to prevent entrainment of fish and maintain flow rates in source streams.

3. Discharge permits (e.g., local, state, NPDES) will be obtained for hydrostatic test water disposal.

4. Hydrostatic test water will be sampled during discharge and treated, if necessary, in accordance with permit to avoid pollution. Hydrostatic testing water in New Mexico will be tested for volatile compounds and metallic particles. Testing and treatment methods will be reviewed by the USFWS New Mexico Field Office prior to the return of any testing water to the rivers in New Mexico.

5. Dispersion devices or containment structures will be used when discharging test water to avoid erosion.

6. No more than 5 percent of current stream flow will be withdrawn from any source.

7. Hydrostatic test water will not be discharged into HQ1 or HQ2 streams.

WETLANDS

1. Wetland areas will be avoided to maximum extent possible

2. Staging areas will be located at least 100 feet from wetland edge 100 feet on BLM and USFS lands to maintain buffer zone and avoid water pollution unless waived by the affected land manager and the authorized officer due to topographic restrictions.

3. Petroleum products will not be stored within 100 feet of wetlands to avoid water pollution.

4. Construction of above ground facilities will not be permitted in Federally delineated wetlands and all areas located in 100-year floodplains.
5. Sediment filter devices will be installed to prevent spoil drift and sedimentation where needed and required.

6. State-issued wetland crossing permit will be obtained, if required.

7. Construction ROW in wetland crossings will be less than 75 feet wide to minimize disturbance.

8. Proper clearing techniques will be utilized, leaving roots in place to maintain stability of soils.

9. Wide-track or balloon-tire construction equipment (or proper equipment pads) will be utilized to minimize disturbance.

Table 2-12 (Continued)

10. No fertilizer or lime will be used in reclamation activities to prevent eutrophication of wetlands.

11. Soil, rock, tree stumps, or brush riprap will not be used to stabilize ROW to avoid altering the substrate.

12. Sediment filter devices will be installed and maintained at the base of all slopes adjacent to wetlands after construction.

13. Trees and/or native woody vegetation will be replanted in disturbed riparian areas to minimize visual intrusions.

14. Native herbaceous and woody plant species will be monitored to ensure they permanently revegetate.

15. Proper construction techniques will be used to prevent silt from flowing into wetlands.

16. ROW will be aligned to avoid beaver ponds or artificial ponds.

17. Agreements with livestock permittees will be developed to provide short-term protection of stream banks from livestock.

18. Construction across narrow wetlands (<200 feet) will consist of using a work pad (mud board) for the equipment, and the pipe will be placed as though it were on dry ground.

19. Construction across wide wetlands (>200 feet) will consist of laying pre-fabricated sections of the pipe into the trench, utilizing flotation devices.

20. All disturbed wetlands will be restored to original contours. Disturbed areas will be limited to the minimum necessary to construct the pipeline. In jurisdictional wetlands, the top 6 to 12 inches of the trench will be backfilled with topsoil from the trench, and any exposed slopes and streambanks will be stabilized immediately upon completion of the utility line.

SOILS

1. Topsoils will be stripped from disturbed areas to a depth of 12 inches or to a depth specified by the land managing agency. The land managing agency may also specify the width of topsoil to be stripped, but the minimum width should encompass the area over the trench and under the subsoil spoil pile.

2. On saline soils (shale badlands) the top 6 inches of soil over the area to be excavated will be stripped, windrowed, and replaced after construction to encourage revegetation by native seeds present in the topsoil.

3. Steep slopes will be graded properly to minimize erosion.

4. Cuts and fills will be minimized to reduce the amount of exposed soils.

5. Proper blasting techniques will be used to aid in safety and minimize disturbance.

6. Proper trenching techniques will be used to minimize disturbance.

Table 2-12 (Continued)

7. Construction restrictions during wet weather (temporary shutdown) will be followed to avoid road and site disturbance (ruts 4 inches or greater).

8. Cut and fill will not be used unless side slopes exceed 3 percent to minimize soil exposure and erosion.

9. Proper backfilling with compaction and contouring will be done to aid in site reclamation.

10. Backfill will be mounded over trench approximately 0.5 foot to account for subsidence unless otherwise requested by the authorized officer.

11. Topsoil replacement will be performed over entire disturbed area, sufficient for refilling and mounding.

12. Either temporary or permanent erosion control measures shall be initiated within 10 days after the trench is backfilled to aid in site stabilization.

13. Water bars shall drain away from disturbed area and begin and end in vegetation or rock.

14. Excess or unsuitable materials will be disposed of at approved locations.

15. Permanent water bars will be constructed on all slopes to help control runoff. Spacing will be as follows or as directed by the affected line manager or authorized officer.

Slope (%)	Spacing
0 to 2	120 feet
2 to 5	100 feet
5 to 10	75 feet
10 to 20	50 feet
20 +	30 feet

16. Sediment barriers will be installed and maintained at the base of slopes located adjacent to road crossings until ROW revegetation is complete, or as directed by the authorized officer.

17. Noxious weed-free sediment barriers will be installed at stream, river, and wetland crossings to minimize sedimentation.

18. Trench breakers will be constructed on all slopes that drain into perennial streams or wetlands or onto improved roads to prevent the channeling of runoff or the migration of water along the trench. The trench breakers should be constructed at the same spacing as permanent water bars. Trench breakers should also be constructed immediately downslope of any location where groundwater could enter and migrate along the trench at any time of year.

19. Topsoil will not be used for the construction of trench breakers.

20. Snow will not be mixed with fill or topsoil during construction to avoid soil losses.

Table 2-12 (Continued)

21. Compacted soils in agricultural areas will be relieved so that bulk density of soils on ROW approximates that of soils on adjacent undisturbed agricultural areas to maintain soil productivity.

22. Compacted soil conditions will be relieved before topsoil is replaced.

23. Topsoil will not be redistributed if the ground or topsoil is frozen.

24. Rocks on ROW will be removed to approximate pre-construction conditions.

25. Any blasting near the power transmission line ROW shall include blasting mats or berms so that flyrock or debris will not damage the transmission facilities. Utilities shall be notified prior to all blasting in the ROW.

SOLID WASTE

1. Construction sites will be maintained in a sanitary condition.

2. Waste will be disposed of at an authorized disposal site.

3. A litter policing program will be implemented to avoid litter and visual impacts.

VEGETATION

1. Appropriate clearing techniques will be utilized to preserve roots, stockpile or dispose of vegetation wastes to maintain stability of site, and provide erosion control.

2. Construction and reclamation bond will be provided to ensure reclamation.

3. Non-linear ROW techniques (feathering) will be used to minimize visual impacts in areas as determined by the authorized officer.

4. Native species will be incorporated as practical in the reseeding mixture.

5. The SCS or the affected land management agency will be included in reclamation planning for site-specific information (e.g., noxious weed control, temporary erosion control, and the optimal time for seeding.

6. Seedbed preparation will be conducted to 3- to 4-inch depth to enhance revegetation (scarifying, tilling, harrowing).

7. Seeding will be conducted during the normal seeding season with proper seed mixture and techniques (certified seeds, proper seeding, and amount). TransColorado will meet with each field office to develop site-specific seeding plans prior to commencing construction. The specific seed mixtures will be included in the plan of development.

8. Approved mulch application will be used in sensitive areas (dry, sandy, steep slopes) to control erosion, as directed by the affected line manager or authorized officer.

Table 2-12 (Continued)

9. Where wood chips are used as mulch, topdress will be with nitrogen at rates specified by the authorized officer.

10. Thatching or fiber blankets will be used on stream banks and areas of high erosion potential to control erosion, if needed.

11. Special land preparation will be accomplished on "critical areas" to control erosion and enhance revegetation.

12. Continuing revegetation efforts will be provided to ensure adequate cover until vegetation is established.

13. Procedures for application of herbicides, pesticides, and fertilizers will be identified where needed.

14. Cleared vegetation will be disposed of as directed by the authorized officer.

15. Seed will be used within 12 months of testing to assure seed viability.

16. Seed will be drilled, where feasible, to enhance germination.

17. If broadcast or hydroseeding methods are used, seeding rates will be double the recommended seeding rates.

18. Inspection will occur after first and second growing seasons to determine need for further restoration.

19. Revegetation success will be monitored for the life of the project. Problem areas will receive additional revegetation efforts.

20. Noxious weed control measures will be implemented on the ROW for at least 5 years after construction.

21. Mulch, when used, will be anchored immediately after placing to minimize loss by wind and water.

22. Construction vehicles must arrive at the site in a clean and weed free condition.

23. Fertilizer will be used to enhance vegetation where recommended.

FORESTRY

1. Merchantable timber will be purchased by TransColorado.

2. Unmerchantable timber may be hauled off site or scattered on the ROW, as directed by the authorized officer.

3. If timber is scattered, it shall be done after seeding.

Table 2-12 (Continued)

4. Unmerchantable timber may be left on the ROW as a barrier to vehicular traffic and to impede erosion.

5. Trees 3 inches in diameter or larger at ground level within the ROW will be cut and not pushed over except in the actual trench where stumps will be pulled during trenching.

6. Trees hung up during felling will be put on the ground immediately as a safety measure.

LIVESTOCK GRAZING

1. Grazing deferment plans may be developed with landowners and grazing permittees to minimize grazing disturbance until ROW revegetation is complete.

2. All damaged livestock facilities (fences, water sources) will be repaired to landowner's satisfaction. Temporary fences will be installed when necessary, to prevent livestock movement across fences temporarily removed for construction.

3. Compensation or temporary measures will be provided for any critical facilities (such as watering sites) that are disrupted during the construction and restoration process.

4. Fences or other suitable barriers will be built to replace natural livestock barriers that would be altered or removed by pipeline construction.

WILDLIFE

1. Seasonal closures will be observed for elk, deer, antelope, sage grouse, heron, and other specified species unless waived by the authorized officer.

2. All non-essential access roads would be closed along the operational ROW to minimize disturbance impacts to wildlife.

3. A nesting raptor survey will be conducted prior to construction.

THREATENED OR ENDANGERED SPECIES

1. Construction will be restricted in key bald eagle wintering areas between November 15 and April 15, unless waived or modified by the authorized officer.

2. Construction near active (listed proposed and candidate species) raptor nests will be restricted between February 1 and August 15 (distance restrictions and dates vary with raptor species) unless waived or modified by the authorized officer.

3. Site-specific mitigation plans will be developed with the U.S. Fish and Wildlife Service for any impacted threatened or endangered species. Twenty individuals of Uinta Basin Hookless Cactus that are removed by construction will be transplanted to suitable habitat in the immediate area. Any depletions of water from occupied habitat for listed fishes would be mitigated by paying a one time fee for every acre foot of depletion in accordance with current USFWS guidelines.

4. The construction ROW will be aligned to avoid identified bald eagle winter roost trees.

5. Pipeline maintenance will be scheduled to avoid crucial bald eagle and raptor use periods.

6. Emergency maintenance in crucial bald eagle or raptor areas will require notification of the applicable land management agency, the USFWS, and the CDOW or the New Mexico Game and Fish Department.

7. Stream and river crossings in any occupied threatened and endangered fish habitat would be completed when the streams are at base flow levels. The preferred dates for crossing the Colorado, Gunnison, La Plata, and Animas Rivers are between September 1 and October 15.

8. A study will be designed and completed to document the impact of construction of pipeline crossings on water quality and fish in the Animas and La Plata Rivers. Studies will be coordinated with the USFWS in Albuquerque. The first step in the studies will be to test sediments at the crossing locations for PAH.

WILD HORSES

1. During construction, cuts will be made in open trenches (at BLM specified intervals) in the Spring Creek Basin horse range to allow horses to cross the open trench.

CULTURAL RESOURCES

1. TransColorado shall comply with the treatment plan developed and approved by BLM, USFS, SHPO, FERC, and the Advisory Council on Historic Preservation.

2. A cultural resource awareness program will be developed and conducted by TransColorado prior to construction to minimize impacts to archaeological sites.

PALEONTOLOGY

1. Two sensitive paleontological sites found during an inventory of the Wasatch Formation will be monitored during construction.

VISUAL RESOURCES

1. In all disturbed areas provide successful regeneration of plant cover including indigenous species.

2. The ROW construction clearing will be limited to a 50-foot width (subject to slope stability engineering design needs) in the following areas. The spoil will be either used as a temporary roadbed or stockpiled in nearby less sensitive areas (e.g., unseen) and subsequently hauled back to the site where it was originally removed.

   Proposed Action and Agency Preferred Alternative Route - Grand Mesa - MP 74.0 to MP 75.7

   Grand Valley Variation - steep basin above Deer Creek River to Big Salt Wash MP 22.2 to MP 24.0

   Mancos Valley West Variation - southside, Dolores River Crossing MP 1.7 to MP 1.8
   (same location for San Juan Valley Variation)

Table 2-12 (Continued)

San Juan Valley Variation - crossing Glade Road north of Farmington MP 80.3 to MP 80.9

3. Existing parallel roads or utility corridors will be used as part of the disturbed zone for access or stockpiling.

4. ROW construction clearing will be extended beyond the standard 75-foot width to create a more natural effect on the final EIS agency preferred route from above Dolores to Mancos Hill.

5. Road cuts will be kept at an angle at or near road crossings shown in Appendix G where the ROW is in long view of the road.

6. The boundary of the ROW will be feathered to minimize straight, non-natural lines, especially in forested areas as directed by the authorized officer.

7. Conifers of sufficient height and density to screen views of ROW will be planted in locations shown in Appendix G or as directed by the authorized officer.

8. The pipeline will be consolidated into a common corridor with existing, nearby utilities when the utilities would be visible in separate corridors (Appendix G).

9. Pipeline will be re-routed to a less topographically prominent position where a significantly less visible alignment exists nearby (Appendix G).

10. Visual intrusions of compression and metering facilities will be mitigated as specified by the authorized officer. Some specific measures include:

    - limit disturbance to minimum area necessary;
    - perform careful, detailed siting and design of facilities to minimize visual contrast, and take advantage of topographic or vegetative screening; and
    - select materials and colors to blend with the surroundings.

11. Aboveground facilities will be painted to blend with natural surroundings (where not precluded by safety regulations) to minimize visual intrusion.

12. Views down the ROW will be minimized by breaking long, straight lines of pipe with ROW angles.

13. Native vegetation will be planted at road, trail, and key visual viewpoints to break view of ROW and blend with natural landscape.

RECREATION

1. Temporary access will be made available for any major campgrounds or trails blocked by construction.

Table 2-12 (Continued)

TRANSPORTATION

1. Boring techniques will be used under major or busy roadways to avoid disrupting traffic.
2. During temporary shut-down, ROW shall be blocked to avoid unauthorized entry.
3. Adequate safety precautions and traffic control (detours, flagmen) will be provided for traffic safety in accordance with Federal, state, or county requirements.
4. Any disturbed local roadways will be repaired or replaced to maintain transportation network.
5. All public and private roadway crossings and access points will be restored to safe and acceptable conditions.
6. Minor road crossings will be completed in 24 hours or less to minimize traffic disruption.
7. Access to existing Western Area Power Administration utility lines will not be blocked.
8. Construction activities on Western Area Power Administration's transmission access system shall allow heavy equipment to use the road at least to a standard of H-20 loading. This shall be achieved without increasing the elevation of the road surface in such a manner that would cause high centering of maintenance vehicles.
9. TransColorado will participate in the maintenance of roads used to access the ROW and ancillary facilities in conjunction with other facilities.
10. On USFS roads, no rutting will be allowed on gravel surfaced roads, and up to 2-inch-deep ruts will be allowed on non-surfaced roads.

LAND USE, ZONING, AND LOCAL COMMUNITIES

1. TransColorado shall abide by the valid existing rights of all permittees, licensees, ROW holders, leases, mining claimants, and any other holders of valid authorizations on BLM and USFS lands.
2. Pre-construction meetings will be conducted with the BLM, USFS, and FERC prior to beginning construction.
3. All necessary Federal, state, and local permits will be obtained.
4. The boundaries of the 75-foot construction ROW will be flagged prior to construction.
5. All existing improvements, such as fences, gates, irrigation ditches, and cattle guards, will be maintained and repaired to at least pre-construction condition to minimize disturbances to the public.
6. Measures will be provided to control use of ROW (natural barriers, gates, or tree planting) and prevent unauthorized travel for the life of the project.

Table 2-12 (Continued)

PUBLIC HEALTH AND SAFETY

1. A fire prevention and suppression plan will be prepared and followed to avoid fire and maintain public safety.
2. Spark arrestors will be used during construction, operation, and maintenance to prevent fires.
3. Coordination with affected utilities will be done to avoid utility disruptions.
4. Safety measures will be provided to protect workers and the public from electric shocks. Hazards associated with work activities in the vicinity of high-voltage electric power transmission lines will be identified and avoided.
5. An emergency response plan will be prepared and followed for leaks and spills (hazard areas, wetlands, stream crossings) to protect the public.
6. Pipeline construction will cease by sunset, night-time construction will not be permitted.
7. TransColorado will comply with all applicable Federal, state, and local laws and regulations concerning the use, storage, and control of designated hazardous materials.
8. TransColorado will comply with all applicable Federal, state, and local laws and regulations concerning the use, storage, and handling of explosive materials.

ATTACHMENT 1

TABLE 2-13

TransColorado Gas Transmission Project
Site-Specific Environmental Protection Measures

This table lists BLM and USFS site-specific environmental protection measures that will be attached to the BLM and USFS ROW grant in addition to those listed in Table 2-12. These measures are based upon decisions in BLM and USFS land use plans. As dictated by these plans and agency policies, exceptions to the listed stipulations are permitted by waivers or modifications and must be in writing and signed by both the affected land manager and the authorized officer for the project. The Federal agency that administers the Federal land would prepare site-specific environmental analysis documents prior to waiving any exceptions.

Stipulation	Exception
Paleontological Resources Stipulation	
Paleontological surveys shall be conducted within the 75-foot right-of-way where it intersects BLM/FS Class I paleontological areas. The surveys shall be conducted by a qualified paleontologist prior to pipeline construction. Any significant fossils found during the surveys will be avoided or excavated as instructed by the applicable BLM/USFS office.	
Soils and Water Stipulations	
Surface-disturbing activities shall be prohibited within 100 feet of perennial streams in the Grand Junction Resource Area (Grand Junction Resource Management Plan).	Does not apply to essential utility crossings
Surface disturbance shall be limited in the Palisade watershed and interference with the Palisade watershed shall be avoided (Grand Junction Resource Management Plan). Blading will be limited to that needed for excavation of the pipeline trench and must not exceed 35 feet in width. No blading will be allowed in the remaining 15 feet of the graded ROW.	May be waived or modified during siting of the pipeline if doing so would not result in unacceptable impacts to the watershed.
Surface occupancy shall be prohibited on slopes greater than 40 percent. Other surface-disturbing activities shall be allowed only after analyzing site-specific conditions and potential for safety hazards and reclamation (Grand Junction Resource Management Plan).	Waivers or modifications permitted if TransColorado agrees to the following measures to protect soils, water, and vegetation resources on these steep slopes. Additional measures may be added as needed during siting of the pipeline: a. Prior to any grading and trenching in these areas, a temporary retaining barrier consisting of a woven mesh-type material will be installed at the edge of the defined ROW to hold the spoil material on the slope. Grading and trenching will be accomplished using smaller earth-moving equipment and backhoes. Trench breakers will be used to minimize soil erosion.

TABLE 2-13 (Continued)

Stipulation	Exception
	b. After the ROW has been restored to a condition acceptable to BLM, waterbars will be constructed to: (1) ensure that soil erosion is minimized; (2) simulate the imaginary contour lines of the slope (ideally with a grade of 1 to 2 percent); (3) drain away from the disturbed area; and (4) begin and end in vegetation or rock where possible. A closer spacing of waterbars may be required on steep slopes to reduce channelization. Waterbars will be installed according to the following table: Slope (%) — Spacing Interval (feet) 0-2 — 120 2-5 — 100 5-10 — 75 10-20 — 50 >20 — 30
	c. When appropriate, slash will also be used to control erosion. Silt and runoff retention basins may be constructed along the ROW to reduce erosion. The BLM will approve site locations and develop minimum standards for the basins.
	d. Areas disturbed either indirectly by passage of construction equipment or directly by trenching and backfilling will be seeded with a BLM approved mixture. Seeding will be done during the months of September through November. If seeding is not accomplished until the following year, all annuals and undesirable vegetation (Russian thistle, Halogeton, etc.) will be eradicated prior to seeding. The seeds will be planted using a drill equipped with a depth regulator to ensure proper depth. Where drilling is not possible, seed will be broadcast and the area will be chained to cover the seed. When broadcasting the seed, the pounds of pure live seed/acre will be doubled.
	e. After the ROW has been restored and seeding has been completed, an approved matting will be installed to stabilize the soil. This matting will only be necessary on very steep slopes selected by the BLM.
Surface-disturbing activities will be prohibited on highly erodible soils from March 1 to May 31 to minimize erosion and salt yields during periods of high soil moisture (Uncompahgre Basin Resource Management Plan).	May be waived or modified if soil conditions permit construction without creating ruts greater than 4 inches in depth.

ATTACHMENT 1

TABLE 2-13 (Continued)

Stipulation	Exception
No long-term adverse impacts on public lands will be allowed to riparian/aquatic systems of Cottonwood and Roubideau Creeks (Uncompahgre Basin Resource Management Plan). Removal of all trees and shrubs in the riparian areas of Cottonwood and Roubideau Creeks shall be prohibited.	May be waived or modified if TransColorado can demonstrate that removal of trees and shrubs in the riparian areas would not result in long-term impacts to the riparian/aquatic systems of Cottonwood and Roubideau Creeks. In addition, any trees or shrubs approved for removal shall be replaced with willow clumps or cottonwoods from nursery stock or some source other than adjacent BLM land. Plants shall be protected from livestock and wildlife.
Wildlife Stipulations	
Disturbing activities shall be prohibited in key, (severe winter range, crucial range, winter concentration areas, fawning areas, calving areas, sage grouse leks, heron rookeries, raptor nests) ranges and nesting areas (Tables 2-15 and 2-16) during the times listed below. These dates are based on the most conservative agency recommendations for areas crossed by the TransColorado Project. Recommended dates vary between BLM Resource Areas, National Forests, and state wildlife agencies.	May be waived or modified if TransColorado can demonstrate that disturbing activities during seasonal closures could be conducted without causing unacceptable impacts to wintering animals, big game calving/fawning areas, nesting/breeding sagegrouse, nesting heron, and nesting raptors.
Key Winter Range Mule Deer 12/1-5/1 Elk 12/1-5/1 Antelope 12/1-5/1	
Fawning, Calving Areas - Mule Deer 5/15-7/1 Elk 5/1-7/1 Antelope 5/1-7/1	
Sage Grouse Nesting/Breeding Areas - No activity within 2 miles of an active sage grouse lek between 3/1-7/15	
Nesting Waterfowl Areas - 3/15-6/30	
Heron Rookeries - No activity within 0.5 miles between 3/15-7/31	
Ferruginous Hawk - no activity within 1 mile of the nest between 2/1-8/15	
Golden Eagle - no activity within 0.5 miles of the nest between 2/1-8/15	

TABLE 2-13 (Continued)

Stipulation	Exception
Other Raptor Nests - no activity within 0.5 miles of the nest between 2/1-8/15 (no stipulations cover the American kestrel), the dates and distances vary according to raptor species.	
Major utility corridors are excluded in key big game areas (see Tables 2-15 and 2-16) in the San Juan, San Miguel Resource Areas, to protect wintering big game habitat.	Exceptions may be authorized on a case-by-case basis depending on the site-specific impact of the proposal (San Juan/San Miguel Resource Management Plan). May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to wintering big game habitat. In addition, TransColorado must agree to re-establish sagebrush, fourwing saltbush, or other appropriate shrubs for winter forage.
Threatened and Endangered Species Stipulations	
Disturbing activities shall be prohibited in key habitats for threatened and endangered species during the following periods and within the following buffer zones. TransColorado shall not remove or damage any known bald eagle roost trees. In addition, TransColorado shall minimize the removal of all large trees and snags in bald eagle winter use areas. When selecting trees for removal, the following types of trees and snags should be avoided: 1) large conifers, or groups of conifers, which are significantly taller than the adjacent trees, particularly if the trees have open branch structure or dead tops; 2) snags, or groups of snags, which are significantly larger than the surrounding trees; 3) cottonwoods or snags that stand in open mostly treeless areas, such as Disappointment Valley; and 4) large cottonwoods in streamside areas that are significantly taller than surrounding cottonwoods. Recommended avoidance periods and buffer zones vary between BLM Resource Areas, National Forests, and state wildlife agencies. The following buffer zone recommendations are from USFWS bald eagle (USFWS 1982) and peregrine falcon (USFWS 1984) recovery plans and USFS (USFS 1991B) Region 3 Mexican Spotted Owl Guidelines. The following avoidance periods are based on the most liberal agency recommendations for key habitats crossed by the TransColorado project.	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to threatened or endangered species.

ATTACHMENT 1

TABLE 2-13 (Continued)

Stipulation	Exception
Bald Eagle Nesting site - no activity within 0.5 miles of the nest between 11/15-7/31.	
Winter roost - no activity within 0.25 mile of the roost between 11/15-4/15.	
Winter concentration areas no activity within 0.25 mile of the winter concentration area between 12/1-4/15.	
Peregrine Falcon Nesting site - no activity within 1 mile of the nest between 3/15-7/31.	
Mexican Spotted Owl - Establish a 450 acre core area and a 2,000 acre territory around any Mexican spotted owl nest. Restrict activities within core area. If it is not legally possible to restrict activities, no activities will be permitted within the core area between 2/1-7/31. Disturb no more than 516 acres of the 2,000 acre territory.	
Cultural Resources	
TransColorado shall conduct a Class III cultural resources inventory within a 200-foot corridor along the approved pipeline route prior to the BLM and USFS making a decision. The inventory shall be conducted on public and private lands by a Federally-approved archaeologist in accordance with the Programmatic Agreement signed by the BLM, ACHP, USFS, SHPOs, and TransColorado. Cultural resources will be evaluated and then treated according to an approved treatment plan.	
Travel Restrictions:	
Areas listed on Table 2-17 are closed yearlong to off-road or off-trail motorized vehicle travel to prevent erosion and area use conflicts (San Juan National Forest Land and Resource Management Plan).	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts. This stipulation shall not be waived for scheduled maintenance.
Areas listed on Table 2-17 are closed to motorized vehicles from December 1 to March 31 yearly to protect wildlife winter range (San Juan National Forest Land and Resource Management Plan).	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to wildlife winter range. This stipulation shall not be waived for scheduled maintenance.
Roads listed on Table 2-17 are closed to motorized vehicles from November 1 to June 30 yearly to prevent road damage (Grand Mesa, Uncompahgre, and Gunnison National Forests Land and Resource Management Plan).	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to roads. This stipulation shall not be waived for scheduled maintenance.

ATTACHMENT 2

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
Colorado State Office
730 Simms Street, Suite 290
Golden, CO 80401

Phone: (303) 231-5280 FAX (303) 231-5285

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
FWE/CO:BLM-TransColorado Pipeline
MS 65412 GJ

NOV 30 1992

Memorandum

To: District Manager, Bureau of Land Management, Montrose District Office, 2465 South Townsend Ave., Montrose, CO

From: State Supervisor, Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Golden, CO

Subject: Final Biological Opinion, TransColorado Gas Transmission Pipeline, Response to Final Biological Assessment No. 6777-001-540

This opinion addresses endangered fishes, the Uinta Basin hookless cactus, and Ute ladies'-tresses. Based upon existing information, we concur with the finding of "no affect" for the other listed species considered in the final biological assessment for the TransColorado Gas Transmission Pipeline.

Details of conservation measures and conservation recommendations have been changed from the draft biological opinion. Therefore, TransColorado Gas Transmission Company (TransColorado) has not had a chance to review a draft biological opinion with all the details and has not had opportunity to provide a letter of concurrence saying that they will abide by the conservation measures and conservation recommendations. However, the BLM informed the Service on October 14, 1992 that TransColorado must abide by the conservation measures and conservation recommendations in order to receive their permit for construction. Therefore, TransColorado will provide the Service with a letter of concurrence after issuance of the final biological opinion. The letter should be received by the Service within 30 days of receipt of the biological opinion by TransColorado.

Enclosures

pc: CDOW, Grand Junction
CDOW, Montrose
COE, Grand Junction
FWS/FWE, Grand Junction
FWS/FWE, Salt Lake City
FWS/Ecological Services, Albuquerque, NM

Colorado Gas Transmission Pipeline
Biological Opinion

FWS/GJ-6-CO-92-F-010

Subject: Final Biological Opinion, TransColorado Gas Transmission Pipeline, Response to Final Biological Assessment No. 6777-001-540

In accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) and the Interagency Cooperation regulations (50 CFR 402), this transmits the Fish and Wildlife Service's (Service) biological opinion for impacts to federally listed endangered species. This opinion is provided to you as the lead Federal agency regarding Section 7 consultation on this project. Copies of this opinion are being provided to the above referenced applicant since the Service has incorporated conservation measures and conservation recommendations that should be included as conditions of any permits issued by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) for this project.

The Service concurs that the annual depletion of water from the Colorado River "may affect" the endangered Colorado squawfish (Ptychocheilus lucius), humpback chub (Gila cypha), bonytail chub (Gila elegans), and razorback sucker (Xyrauchen texanus). The Service also concurs that removal of 88 Sclerocactus glaucus (Uinta Basin hookless cactus) "may affect" this species. The Service believes that if any Spiranthes diluvialis (Ute ladies'-tresses) are found in the right-of-way that pipeline construction "may affect" this plant species.

BIOLOGICAL OPINION

Based upon the best scientific and commercial information that is currently available, it is the Service's biological opinion that the construction of the proposed TransColorado Gas Transmission Pipeline, as described below, is not likely to jeopardize the continued existence of the Colorado squawfish, humpback chub, bonytail chub, and razorback sucker in the Upper Colorado River Basin provided that the conservation measures described in this document are implemented. In the San Juan River Basin the project is not likely to jeopardize the continued existence of the Colorado squawfish or razorback sucker. Conservation recommendations are proposed for the San Juan River fishes. The project is not likely to jeopardize the continued existence of the Uinta Basin hookless cactus or the Ute ladies'-tresses orchid. Conservation recommendations are proposed for these two plant species. In a letter dated 11/30/92, the TransColorado Pipeline Company agreed to implement the conservation measures that we believe are necessary to offset the likelihood of jeopardy to the fishes as well as conservation recommendations to offset impacts to the plant species. These conservation measures and conservation recommendations should be included as stipulations or conditions of the BLM and USFS permits.

PROJECT DESCRIPTION

TransColorado Gas Transmission Company proposes to construct, operate, and maintain a 22 and 24 inch diameter natural gas transmission pipeline system between the Piceance Basin, Rio Blanco County, Colorado and the Blanco Plant near Bloomfield, New Mexico. Interconnects with other gas pipelines would occur in the Bloomfield area. The preferred pipeline would be 290 miles in length, with about 3 miles of interconnecting pipeline. The project would disturb about 2,640 acres, which includes lands disturbed by pipeline construction, six new compressor stations, and six meter stations. Some of the acreage to be disturbed has been previously disturbed by other projects. No new roads would be constructed, but about 165 miles of existing roadways would be graded or improved.

Construction right-of-way (ROW) would be 75 feet in most areas, and the operational ROW would be 50 feet. In some areas, such as steep sideslopes the construction ROW would be wider, and in some cases, the construction ROW would be less than 75 feet to protect sensitive resources. The proposed pipeline parallels other pipelines or utilities for 180 miles, with a 25 to 50 foot offset from those other utilities, resulting in a shared ROW. Clearing of vegetation would be kept to the minimum necessary to allow adequate room for construction equipment.

Construction would require the use of an estimated 7.74 acre-feet of surface water, and 3.30 acre-feet of municipal water for dust abatement during construction. Dust abatement water would be withdrawn from most streams at the point of pipeline crossing (the Uncompahgre River would be an exception; water would be withdrawn upstream of the confluence with the Gunnison River and downstream of Delta). Construction would also require the temporary use of a total estimated 51.78 acre feet of surface water, withdrawn from streams, for hydrostatic testing of the pipeline. Of this 5.53 acre-feet would be temporarily removed from habitat occupied be endangered fishes, and transferred to another drainage, within the upper Colorado River basin. Hydrostatic test water would be withdrawn from streams and discharged into them at the points where the pipeline crosses the streams.

Listed Fishes: Upper Colorado River

BASIS FOR OPINION

This section of the biological opinion addresses the average annual depletion of approximately 12.89 acre-feet of water from the upper Colorado River.

Water depletions in the Upper Colorado River Basin have been recognized as a major source of impact to endangered fish species. Continued water withdrawal has restricted the ability of the Colorado River system to produce flow conditions required by various life stages of the fishes. Impoundments and diversions have reduced peak discharges by 50 percent since 1942 while increasing base flows by 21 percent in some reaches. These depletions along with a number of other factors have resulted in such drastic reductions in the populations of Colorado squawfish, humpback chub, bonytail chub and razorback

sucker that the Service has listed these species as endangered and has implemented programs to prevent them from becoming extinct.

Colorado Squawfish

The Colorado squawfish evolved as the main predator in the Colorado River system. The diet of Colorado squawfish longer than three or four inches consists almost entirely of other fishes (Vanicek and Kramer 1969). The Colorado squawfish is the largest cyprinid fish (minnow family) native to North America and, during pre-development times, may have grown as large as six feet in length and weighed nearly 100 pounds (Behnke and Benson 1983). These large fish may have been 25-50 years of age.

Based on early fish collection records, archaeological finds and other observations, the Colorado squawfish was once found throughout warm water reaches of the entire Colorado River Basin, including reaches of the upper Colorado River and its major tributaries, the Green River and its major tributaries, and the Gila River system in Arizona (Seethaler 1978). Colorado squawfish were apparently never found in colder, headwater areas. Seethaler (1978) indicates that the species was abundant in suitable habitat throughout the entire Colorado River basin prior to the 1850's. Historically, Colorado squawfish have been collected in the upper Colorado River as far upstream as Parachute Creek, Colorado (Kidd 1977).

A marked decline in Colorado squawfish populations can be closely correlated with the construction of dams and reservoirs during the 1960's, the introduction of nonnative fishes, and the removal of water from the Colorado River system. Behnke and Benson (1983) summarized the decline of the natural ecosystem. They pointed out that dams, impoundments, and water use practices are probably the major reasons for drastically modified natural river flows and channel characteristics in the Colorado River Basin. Dams on the mainstem have essentially segmented the river system, blocking Colorado squawfish spawning migrations and drastically changing river characteristics, especially flows and temperatures. In addition, major changes in species composition have occurred due to the introduction of nonnative fishes, many of which have thrived as a result of changes in the natural riverine system (i.e., flow and temperature regimes). The decline of endemic Colorado River fishes seems to be at least partially related to competition or other behavioral interactions with nonnative species, which have perhaps been exacerbated by alterations in the natural fluvial environment.

The Colorado squawfish currently occupies about 1,030 river miles in the Colorado River system (25 percent of its original range) and is presently found only in the upper Colorado River Basin above Glen Canyon Dam. It inhabits about 350 miles of the mainstem Green River from its mouth to the mouth of the Yampa River. Its range also extends 140 miles up the Yampa River and 104 miles up the White River, the two major tributaries of the Green River. In the mainstem Colorado River, it is currently found from Lake Powell extending about 201 miles upstream to Palisade, Colorado, and in the lower 33 miles of the Gunnison River, a tributary to the mainstem Colorado River (Tyus et al. 1982). Recent investigation found adult Colorado squawfish inhabit the San Juan River as far upstream as 163.3 miles above Lake Powell.

The life stages that appear to be most critical are from egg fertilization through its first year of life. It has been demonstrated that these phases of Colorado squawfish development are also closely tied to some specific habitat requirements. It is imperative that proper flows and temperatures are provided during these essential life stages. The conservation measures outlined below will help further investigate and meet the habitat requirements of the Colorado squawfish, thus offsetting project-related impacts and the likelihood of jeopardy for the species.

Humpback chub

Humpback chub generally do not make migrational movements in the upper Colorado River and tend to reside throughout the year within a limited reach of river. Humpback chub are found inhabiting narrow, deep canyon areas, and are relatively restricted in distribution. They seldom leave their canyon habitat (Service 1982). While humpback chub are regularly found dispersed in the Green and Yampa Rivers, the only major populations of humpback chub known to exist in the upper Colorado River basin are located in Black Rocks and Westwater Canyons on the Colorado River. Conservation measures outlined below will contribute to providing proper habitat conditions for humpback chub, thus offsetting the likelihood of jeopardy for the species.

Bonytail chub

Little is known about the biological requirements of the bonytail chub, as the species greatly declined in numbers in the upper basin shortly after 1960. Until recently, the Service considered the species extirpated from the upper basin; however, a recently collected specimen which exhibits many bonytail characteristics could indicate a small, extant population. It is thought that, should this species persist in the Colorado River, the preferred habitat would be larger river reaches in the Colorado River. Conservation measures outlined below will contribute to conservation efforts for the bonytail chub, thus offsetting the likelihood of jeopardy for the species.

Razorback sucker

The current distribution and abundance of razorback suckers have been significantly reduced throughout the Colorado River system (Holden and Stalnaker 1975, McAda and Wydoski 1980, Minckley 1983, McAda 1987, Tyus 1987, Marsh and Minckley 1989). Above Glen Canyon Dam, razorback suckers are found in limited numbers in both lentic and lotic environments. The largest population of razorback suckers in the upper Colorado River basin is found in the upper Green River and lower Yampa River (Tyus 1987). Lanigan and Tyus (1989) estimated that from 758 to 1,138 razorback suckers inhabit the upper Green River. In the Colorado River, most razorback suckers occur in the Grand Valley area near Grand Junction, Colorado; however, they are increasingly rare. Osmundson and Kaeding (1990) report that the number of razorback sucker captures in the Grand Junction area have declined dramatically since 1974.

Specific information on biological and physical habitat requirements of the razorback sucker is very limited. Habitat requirements of young and juvenile razorback suckers in the wild are largely unknown, particularly in native

riverine environments. Life stages, other than adults, have not been collected anywhere in the upper Colorado River basin in recent times. The last confirmed documentation of a razorback sucker juvenile in the upper Colorado River basin was a capture in the 1960's in the Colorado River near Moab, Utah (Taba et al. 1965, report in Bestgen 1990). The virtual absence of any recruitment suggests a combination of biological, physical, and/or chemical factors that may be affecting the survival and recruitment of early life stages of razorback suckers. Conservation measures outlined below will contribute to conservation efforts for the razorback sucker, thus offsetting the likelihood of jeopardy for the species.

CONSERVATION MEASURES

On January 21-22, 1988, the Secretary of the Interior, the governors of Wyoming, Colorado, and Utah, and the Administrator of the Western Area Power Administration were cosigners of a Cooperative Agreement to implement the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (Recovery Program). An objective of the Recovery Program was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the listed species while providing for new water development in the Upper Colorado River Basin.

The following excerpts are pertinent to the consultation because they summarize portions of the Recovery Program that address depletion impacts, Section 7 consultation, and project proponent responsibilities:

> "All future Section 7 consultations completed after approval and implementation of this program (establishment of the Implementation Committee, provision of congressional funding, and initiation of the elements) will result in a one-time contribution to be paid to the Service by water project proponents in the amount of $10.00 per acre-foot based on the average annual depletion of the project.... This figure will be adjusted annually for inflation.... Concurrently with the completion of the Federal action which initiated the consultation, e.g., ...issuance of a 404 permit, 10 percent of the total contribution will be provided. The balance...will be...due at the time the construction commences...."

It is important to note that these provisions of the Recovery Program were based on appropriate legal protection of the instream flow needs of the endangered Colorado River fishes. The Recovery Program further states:

> "...it is necessary to protect and manage sufficient habitat to support self-sustaining populations of these species. One way to accomplish this is to provide long term protection of the habitat by acquiring or appropriating water rights to ensure instream flows.... Since this program sets in place a mechanism and a commitment to assure that the instream

flows are protected under State law, the Service will consider these elements under Section 7 consultation as offsetting project depletion impacts."

Thus, the Service has determined that project depletion impacts, which the Service has consistently maintained are likely to jeopardize the listed fishes, can be offset by (a) the water project proponents one-time contribution to the Recovery Program in the amount of $11.98 per acre-foot of the project's average annual depletion, and (b) appropriate legal protection of instream flows pursuant to State law. The Service believes it is essential that protection of instream flows proceed expeditiously, before significant water depletions occur.

With respect to (a) above (i.e., depletion charge), the applicant will make a one-time payment which has been calculated by multiplying the project's average annual depletion (12.89 acre-feet) by the depletion charge in effect at the time payment is made. For fiscal year 1993 (October 1, 1992, to September 30, 1993), the depletion charge is $11.98 per acre-foot of the average annual depletion which equals a total payment of $154.42 for this project. This amount will be adjusted annually for inflation on October 1 of each year based on the previous year's Composite Consumer Price Index. The Service will notify the applicant of any change in the depletion charge by September 1 of each year. Ten percent of the total contribution ($15.44) or total payment, will be provided to the Service or its designated agent at the time of issuance of the Federal approvals from the BLM/USFS. The balance will be due at the time the construction commences. The payment will be included by the BLM/USFS as a permit stipulation. The amount payable will be adjusted annually for inflation on October 1 of each year based on the Composite Consumer Price Index. Fifty percent of the funds will be used for acquisition of water rights to meet the instream flow needs of the endangered fishes (unless otherwise recommended by the Implementation Committee); the balance will be used to support other recovery activities for the Colorado River endangered fishes. Payment should be made to the National Fish and Wildlife Foundation (see appendix A). In a letter dated November 30 , 1992 (Appendix B), TransColorado Gas Transmission Company agreed to this payment.

Listed Fishes: San Juan Basin

BASIS FOR OPINION

This section of the biological opinion addresses the average annual depletion of approximately 2.58 acre-feet of water from the San Juan River Basin. The potential affects of the water depletions proposed by the BLM have been analyzed in the context of ongoing consultations, commitments and agreements in the San Juan River Basin. Of primary concern is the quantity and quality of water provided to and through the habitat of the endangered Colorado squawfish and razorback sucker in the San Juan River, including the water provided by the major tributaries such as the Animas and La Plata Rivers. The amounts of water diverted and depleted from the waters of the San Juan River Basin through the construction of the pipeline is considered minor.

On October 24, 1991 a Memorandum of Understanding was executed by the Department of Interior, the States of Colorado, Utah, and New Mexico, the Ute Mountain Ute Indian Tribe, the Southern Ute Indian Tribe, and the Jicarilla Apache Indian Tribe to develop and implement a Recovery Implementation Program for the San Juan River Basin. A Cooperative Agreement to adopt the San Juan River Basin Recovery Implementation Program was signed by the Secretary of the Interior on October 28, 1992. The Program provides for small depletions up to a cumulative total of 3000 acre-feet. Because the depletion of 2.58 acre-feet from the San Juan River Basin for the pipeline is included in the 3000 acre-feet, the Service has determined it will not jeopardize the endangered fishes.

Actions which may impact the water quality of the San Juan River and its tributaries will take place in conjunction with the construction of the pipeline. Potential threats caused by impacts to water quality outweigh the potential impacts caused by removal of surface water from the river. The release of polycyclic aromatic hydrocarbons (PAHs) into the San Juan River via the disturbance of contaminated bottom sediments in its tributaries could adversely affect the Colorado squawfish and razorback sucker.

PAHs may reach aquatic environments by domestic and industrial sewage effluent, by surface runoff, by contaminated groundwater, by deposition of airborne particulates, and particularly by spillage of petroleum and petroleum products into water bodies (Eisler 1987). These compounds may also accumulate in sediments along the river bottom. PAHs in the sediments may be suspended by trenching, pipelaying, and backfilling activities during river crossings conducted in the course of construction of the pipeline. Resuspension of these compounds could result in impacts to aquatic organisms, including those listed fish species under consideration in this biological opinion.

During 1990 and 1991, the Service collected bile samples for PAH analysis from several species of fish in the San Juan River and from migratory birds throughout the Farmington-Bloomfield area. Normal concentrations of naphthalene in fish bile should be less than 10,000 ng/g wet weight (parts per billion), phenanthrene less than 3,000 ng/g wet weight, and benzo(a)pyrene less than 100 ng/g wet weight (National Oceanic and Atmospheric Administration 1989). Bile samples from fish collected during the spring and summer, 1990, indicated that fish in the San Juan River and Navajo Reservoir were being exposed to high levels of naphthalene, phenanthrene, and benzo(a)pyrene. The highest concentrations of PAH metabolites in fish bile (naphthalene 490,000 ng/g wet weight, phenanthrene 120,000 ng/g wet weight, and benzo(a)pyrene 1,800 ng/g wet weight) were detected in an individual sample of bile from black bullheads collected in the San Juan River downstream from the confluence with the Animas River. These data strongly suggest that the San Juan River is heavily impacted by PAHs. Because of the results received from the 1990 spring and summer investigations, bile samples were again collected from several species of fish in the San Juan River during November 1990. Bile samples from flannelmouth suckers (Catostomas latipinnis), taken from seven sampling stations along the river, were analyzed individually for PAH metabolites. Flannelmouth suckers were used as a surrogate species for the razorback sucker to determine the later species' potential exposure. There was no significant increase in the concentration of naphthalene metabolites in flannelmouth sucker bile collected from below the Hammond Irrigation project

(Station A) to the Mancos River (Station G). However there was a significant difference in the concentrations of phenanthrene and benzo(a)pyrene in sucker bile between stations. No correlation between specific river reach and PAH concentrations was noted.

The lower molecular weight PAH compounds, such as naphthalene, and phenanthrene, have significant acute toxicity to some organisms (Krahn et.al. 1984, 1986; Zitko 1975). Higher molecular weight PAHs such as benzo(a)pyrene have been found to cause mutations and cancer in aquatic and terrestrial organisms (Eisler 1987). An adequate body of information is lacking concerning PAH contamination in the San Juan River and the potential affects on aquatic resources of the river caused by the presence of the compounds. However the higher incidence of tumors and hyperplastic diseases in aquatic organisms from PAH contaminated environments raises concern regarding potential affects of PAHs introduced into the San Juan River by disturbing bottom sediments in the tributaries of that river.

Additional concerns include potential contamination from hydrostatic testing of the pipeline and introduction of contaminants from the pipeline in the event of a break in the line. Volatile organic compounds and metal particles may be washed out of the pipeline and into rivers during hydrostatic testing. In addition, hazardous organic wastes are found in the pipelines themselves as a result of gas processing and transport (Eiceman 1986), and may enter the river system if a break in the pipeline occurs.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Endangered Species Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term conservation recommendations has been defined as suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.

1. Oil and gas exploration, coal mining, and hard rock mining have taken place in the San Juan Basin, including the drainages of the La Plata and Animas Rivers in New Mexico and Colorado. There is potential for contamination of sediments in these tributaries of the San Juan River from these activities and from natural occurences. Contaminants also may be unevenly distributed in the sediments and; therefore, we recommend that river bottom sediments at all pipeline crossings on the La Plata and Animas Rivers in New Mexico should be tested for PAH contamination. Inductively coupled plasma (ICP) scans should also be done for potentially toxic metals. Testing protocols should include the following general procedures. Sediment samples should be taken from each side and the middle of the channel. Samples should be collected with stainless steel implements, such as buckets and spoons. Each of the three sediment samples from each crossing should be placed in a labeled, clean, wide-mouth jar, and placed on ice. Strict chain of custody procedures should be followed for handling and shipping to the analytical laboratory. Samples should be taken in time for analysis to take place and be reviewed by the Service's New Mexico Field Office prior to any trenching at the river

crossings. This will allow time for additional recommendations, if necessary, for further sampling of sediments or aquatic organisms. The sample data should be sent to Ms. Anne Cully, 3530 Pan American Highway, NE., Suite D, Albuquerque, NM 87107, (505) 883-7877.

2. Hydrostatic testing water should be tested for volatile organic compounds and metallic particles. Testing and treatment methods should follow general procedures outlined here. The water will be discharged in accordance with applicable effluent limitations, monitoring requirements and other conditions of the discharge permit. The water will be filtered prior to release, and samples will be taken and analyzed for total suspended solids, pH, oil, grease, volatile organic compounds, and toxic metals. The test results will be provided to demonstrate compliance after the water is discharged.

3. Cutoff valves along the pipeline should be as close as possible to the river crossings so that in the event of a pipeline break at the crossings escaping gas and pipeline contaminants will be minimized.

4. These recommendations are not intended to preclude any additional concerns or requirements brought forward by state or Federal regulatory agencies regarding contaminants or water quality.

INCIDENTAL TAKE

Section 9 of the Act, as amended, prohibits any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Under the terms of Section 7(b)(4) and Section 7(0)(2), taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act provided that such taking is in compliance with the incidental take statement.

The Service anticipates that the incidental take to the Colorado squawfish, humpback chub, bonytail chub, and razorback sucker in both the Upper Colorado River Basin and San Juan River Basin associated with this project is zero.

Uinta Basin Hookless Cactus

BASIS FOR OPINION

The Uinta Basin hookless cactus, Sclerocactus glaucus (K. Schum.)L. Benson, is a small barrel shaped cactus 3.0-18.0 cm tall with small pink to purple flowers up to 2.5 cm long. It also has relatively short spines, up to 3.6 cm long, which are hookless. It was listed as threatened on October 11, 1979 (44 FR58870). Because individuals with hooked spines are occasionally found, it has been sometimes treated as a form of the common "fish hook" cactus of the Colorado Plateau, Sclerocactus whipplei (S. parviflorus) , rather than a distinct species (Welsh 1984). However, the most rigorous statistical comparison of the two species, with multivariate analysis, demonstrates that

the two are distinct species, with intermediate individuals in areas transitional between the ranges of the two species (Heil and Porter 1987).

The Uinta Basin hookless cactus has a bimodal distribution with one population in the Uinta Basin in Utah and the other in Colorado. The Colorado population has two sections, one near the town of DeBeque along the Colorado River, and the other along the Gunnison River beginning at Whitewater and extending upstream to about 20 miles east of Delta. The proposed project lies within both Colorado populations. The Uinta Basin hookless cactus generally occurs on river terrace deposits along the rivers or on fine textured sediments overlain by course fragments on mesa tops and slopes. They occasionally occur in fine-textured outwash plains in association with greasewood. Most of the occurrences of the cactus are in mixed desert shrub communities with shadscale, Gardner saltbrush, budsage, Harriman yucca, Mormon tea, broom snakeweed, and galleta grass, with some occurrences in the lower edge of the pinion-juniper woodland. The species elevational range is between 4500 and 5900 feet.

The total documented population within Colorado is 12,000 individuals, with 4,000 in the upper Colorado River population and 8,000 in the Gunnison River population. The documented Uinta Basin population is 10,000 individuals.

Endangered plant surveys of the preferred route were conducted by John Anderson, then with the Service, during the spring of 1991. Fifty-two individuals of the Uinta Basin hookless cactus in 5 separate locations were found within or adjacent to the construction ROW. Three of these occurrences would be bypassed by the proposed pipeline as a result of route modifications. The two remaining occurrences, at approximately mileposts 47.25 and 86, remained within the construction ROW. Since John Anderson's surveys additional surveys were conducted on July 14, 1992 by Jim Ferguson of the BLM. Mr. Ferguson found an additional 5 Uinta Basin hookless cactus at milepost 47.25 and an additional 63 cactus at milepost 86. The first occurrence, on a grassy alluvial bench adjacent to the Colorado River in the upper Colorado River population, at milepost 47.25, consists of 15 individuals in a greasewood, shadscale, budsage plant association (USFWS 1991). The second occurrence, in the Gunnison River population, consists of 73 individuals, at milepost 86, in Mancos Shale adobes with basalt fragments on the surface and shadscale, galleta grass, and woody aster as associated plants (USFWS 1991). Both occurrences are in the midst of larger occurrences of Uinta Basin hookless cactus which have dispersed populations (USFWS 1991). The 88 individuals that may be affected comprise 0.4% of the total documented population of the species, 0.73% of the documented Colorado population, 0.38% of the upper Colorado River population, and 0.91% of the Gunnison River population. Because of the very low numbers and small percentage of the population to be impacted, the pipeline does not constitute a jeopardy to the continued existence of the species. The project also would affect plants in the middle of the species range, rather than more significant colonies at the edge of the range.

CONSERVATION RECOMMENDATIONS

The Service recommends that the procedures described below be followed in order to offset impacts to the Uinta Basin hookless cactus.

1. The 15 affected individuals located at approximately milepost 47.25 near DeBeque should be transplanted to the nearest suitable habitat on public land following accepted transplanting procedures.

2. The 73 affected individuals located at approximately milepost 86 near Kannah Creek should be transplanted to adjacent suitable habitat on public land. When construction is complete, some of the transplants should be re-transplanted back into the disturbed areas, both in the back-filled trench and in the unexcavated areas covered by spoil material during construction.

3. A five year research and monitoring study should be conducted at the Kannah Creek site. Actual study and monitoring design should be jointly determined by the Service and the Bureau of Land Management with input from desert plant community monitoring experts and TransColorado Pipeline or its consultants as appropriate. The research and monitoring should have the following objectives:

a. TRANSPLANT VIABILITY COMPARISON: measure the success of transplants (viability, reproductive vigor) over a 5 year period in comparison to plants in adjacent undisturbed habitat.

b. HABITAT COMPARISON: determine the success of transplanting into:

1. undisturbed adjacent habitat (presumed to be suitable habitat but possibly already sufficiently occupied)

2. the back-filled trench (may be unsuitable habitat due to soil mixing, but presently unoccupied)

3. unexcavated areas that had been covered by spoil material during construction (may still be suitable habitat, but presently unoccupied).

Ute ladies'-tresses

BASIS FOR OPINION

Spiranthes diluvialis (Ute ladies'-tresses) are associated with riparian and wetland areas typically in old stream channels, alluvial terraces, subirrigated meadows, and other sites where the soil is saturated to within 18" of the surface at least temporarily during the spring or summer growing seasons. The orchid is only known from a few scattered locations in Colorado and Utah. One specimen was collected in Nevada but the population is thought to be extinct. It is estimated that it was once common in low elevation riparian areas in Colorado, Utah, and Nevada but it now appears to be very rare. This prompted the Service to list the species as threatened on January 17, 1992 (57 FR 2048-54). The following conservation recommendations may help

the Service to gain a better understanding of this species range and habitat requirements.

CONSERVATION RECOMMENDATIONS

The Ute ladies'-tresses survey guidelines do not require that riparian crossings be surveyed for the TransColorado Gas Transmission Pipeline Project since known or historical records are not present in the pipeline right-of-way. However, the Service recommends that Ute ladies'-tresses surveys be conducted prior to construction at 15 riparian crossings identified by the BLM to have potential for their occurrence. This will help the Service gather important range distribution data whether the orchid is found or not. The current Ute ladies'-tresses survey guidelines, dated November 23, 1992, are attached to this biological opinion. If Ute ladies'-tresses are found in the right-of-way, BLM must reinitiate consultation with the Service.

CONCLUSION

This biological opinion is based upon impacts of the construction of the proposed TransColorado Gas Transmission Pipeline, as described in the final biological assessment, dated September 1992, as submitted by the Bureau of

Land Management. The BLM/USFS should condition its approval documents to retain jurisdiction should Section 7 consultation need to be re-initiated.

Reinitiation of formal consultation is required if the amount or extent of incidental take is exceeded, if new information reveals effects of the action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion, if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion, or if a new species is listed or critical habitat designated that may be effected by the action.

An endangered species subpermit from the Fish and Wildlife Service should be obtained prior to removing and transporting the Uinta Basin hookless cactus. The approved botanist selected for this work must have submitted Form 3-200 "Federal Fish and Wildlife License/Permit Application" and supplemental "Threatened Species" forms. The botanist must have an approved subpermit granted prior to removing any individuals of the Uinta Basin hookless cactus. Copies of the forms and their instructions will be provided to the BLM or their designated representative upon request. A yearly report should be submitted to the Service as directed in the endangered species subpermit.

Thank you for your cooperation in the formulation of this opinion and your interest in conserving endangered species.

Sincerely,

LeRoy W. Carlson
Colorado State Supervisor

Attachments to final B.O.: (Appendix A)

pc: CDOW, Grand Junction
CDOW, Montrose
COE, Grand Junction
FWS/FWE, Grand Junction
FWS/FWE, Salt Lake City
FWS/Ecological Services, Albuquerque, NM

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APPENDIX A

Cooperative Agreement
between
U.S. Department of the Interior
Fish and Wildlife Service
and
National Fish and Wildlife Foundation

I. Background

Three species of fish that inhabit the Colorado River system have been federally listed as endangered: the Colorado squawfish, humpback chub, and bonytail chub. A fourth, the razorback sucker, is currently a candidate for listing. On January 21-22, 1988, the Governors of Utah, Wyoming, and Colorado, the Administrator of the Western Area Power Administration, and the Secretary of the Interior executed a Cooperative Agreement to implement the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (Recovery Program). The 15-year Recovery Program outlines an aggressive effort to recover the endangered fishes of the Colorado River in a manner that is consistent with Interstate Compacts and State water rights systems. The signing of the Cooperative Agreement also established an Implementation Committee whose purpose is to oversee the Fish and Wildlife Service's (Service) implementation of the Recovery Program. Members of the Implementation Committee include representatives of the States of Colorado, Wyoming, and Utah, the Service, the Bureau of Reclamation, the Western Area Power Administration, and representatives of the water development interests and environmental groups.

The cost for implementing the Recovery Program is estimated at $58.5 million over the 15-year time frame. Contributions by proponents of water projects (Federal, State and private) are expected to provide approximately $9-10 million of these funds, assuming full Compact development over the next 15 years. Water project proponents will make a one-time contribution to the Service in the amount of $10 per acre-foot based on the average annual depletion of projects that complete consultation pursuant to Section 7(a)2 of the Endangered Species Act of 1973, as amended. Payment of the contribution will be specified in the biological opinion for each water project which causes a depletion of water from the Upper Colorado River system. Ten percent of the funds will be payable upon completion of the Federal action which initiated the consultation (e.g., issuance of a 404 permit); the balance will be due at the time construction commences or prior to the depletion becoming effective. Funds from these contributions are to be applied equally to flow acquisition and other priority recovery activities, unless otherwise directed by the Implementation Committee.

In addition, the Recovery Program has a provision for the donation of funds from private parties, including conservation groups. Private donations would be used for priority recovery activities as agreed to by the donor, the Service, and/or the Implementation Committee.

The role of the National Fish and Wildlife Foundation (Foundation) was identified in the Recovery Program. Section 5.5 indicates that all contributed or donated funds accruing from the Recovery Program, regardless of source, will be placed in an interest bearing account, such as those administered by the Foundation, until such time as they are utilized in accordance with the Implementation Committee's approved annual work plan and budget.

II. Purpose and Objectives

The purpose of this Cooperative Agreement is to establish a mechanism and procedures for (1) the transfer of funds contributed by water project proponents and private donors pursuant to the Recovery Program to the Foundation; and (2) the disbursement of said funds from the Foundation to accomplish Colorado River fishes recovery activities. This Cooperative Agreement will facilitate the accomplishment of recovery activities for the rare Colorado River fishes in an efficient and timely manner.

III. Authorities

Fish and Wildlife Coordination Act, 16 U.S.C. Sec. 661;
Fish and Wildlife Act of 1956, 16 U.S.C. Sec. 742f(a)(4); and
National Fish and Wildlife Foundation Establishment Act, 16 U.S.C. Sec. 3703(c)(6).

IV. Term

This Agreement shall take effect upon execution, with only subsequent contributed and donated funds being transferred to the Foundation, and will remain in effect until completion or termination of the Recovery Program, whichever occurs first. The term of the Cooperative Agreement that implements the Recovery Program is 15 years.

V. Specific Obligations of the Parties

To accomplish the purposes and objectives of this Cooperative Agreement, each party agrees to cooperate with the other to fulfill its obligations as herein provided.

A. Service Obligations - The Service will:

1. When this Agreement takes effect, inform water project proponents and potential private donors of the procedures for contributing funds to the Foundation, pursuant to the Recovery Program. Procedures for payment of the contributed funds will be specified in the Biological Opinion for each water project which causes a depletion of water from the Upper Colorado River system, and the Service is responsible for ensuring that private and State water project proponents make payment to the Foundation.

2. Identify, from the list of projects included in the Implementation Committee's approved annual work plan, those that should be funded by the Foundation with Colorado River contributed and donated funds. Use of these funds will be coordinated by the Service, on behalf of the Implementation Committee, with the Foundation. (Attachment 1 identifies the current process and schedule for development of the annual work plan by the Implementation Committee.)

3. Develop, in coordination with the Implementation Committee, requests-for-proposals and/or scopes-of-work for work to be funded with Colorado River contributed/donated funds.

4. Work closely with the Foundation to develop contracts for work to be funded with Colorado River contributed/donated funds.

5. Appoint a technical project officer for all contracts or projects carried out or funded under this Agreement.

6. Appoint an individual who will represent the Service in carrying out its obligations under this Agreement, including authorizing the expenditure of funds by the Foundation.

7. In cases dealing with disbursement of funds for acquiring water rights, provide the Foundation with written direction of the Service's Director or his designee, and a certified resolution of the Implementation Committee recommending allocation of the funds. The resolution will contain the following information:

   a. The specific purpose for which the funds are being disbursed.
   b. A detailed description of the water right to be acquired.
   c. The owner of the water right.
   d. The exact or maximum amount to be expended in acquiring the water right.

8. Coordinate and report upon activities of the Foundation with and to the Colorado River Implementation Committee, including providing an annual accounting to the Implementation Committee for all funds maintained, received, and/or expended pursuant to this Agreement.

9. Continue to maintain separate accounts for funds appropriated by Congress for the acquisition of water rights, and contributed/donated funds received prior to the implementation of this Agreement. Use of funds in these accounts will be coordinated by the Service, on behalf of the Implementation Committee, with those maintained by the Foundation under this Agreement.

B. Foundation Obligations - The Foundation will:

1. Serve as the Service's designated agent for accepting and administering contributed and donated funds acquired pursuant to the Recovery Program, and disbursing these funds as approved by the Service and the Implementation Committee.

2. Maintain these funds in a specific account, separate from other Foundation accounts. Interest accruing to this Foundation account will be used for the purpose for which the account was established.

3. Develop and/or issue, in coordination with the Service, contracts for work to be funded with Colorado River contributed/donated funds as identified in the approved Implementation Committee work plan.

4. Appoint an individual who will represent the Foundation in carrying out its obligations under this Agreement.

5. Solicit and accept private donations to finance and implement recovery activities, including the acquisition of water rights, pursuant to the Recovery Program. This obligation is contingent upon approval of the Foundation's Board of Directors and the Service, and is separate from Congressional appropriations coming to the Service for acquisition of water rights.

6. Appoint a technical project officer for all contracts or projects carried out or funded under this Agreement.

VI. Financial Administration

1. The Foundation will be reimbursed for actual expenses associated with carrying out its obligations under this Agreement (not to exceed two percent of the funds received each year). The Foundation will provide a quarterly statement which itemizes its expenses. Upon review (which will not exceed 30 days), the Service will authorize the Foundation to debit the contributed fund account to reimburse approved expenses.

2. The Foundation will prepare and submit to the Service a semiannual report by July 15 and December 15 of each year, which itemizes all funds maintained, deposited, accrued, and disbursed from the account established pursuant to this Agreement.

VII. Project Officers

For the Service (and on behalf of the Implementation Committee):

John Hamill, Program Director
Colorado River Endangered
Fishes Recovery Program
U.S. Fish and Wildlife Service
P.O. Box 25486, DFC
Denver, CO 80225
(303) 236-7398, FTS 776-7398

For the Foundation:

Whitney Tilt
Project Manager
National Fish and Wildlife
Foundation
The Bender Building
1120 Connecticut Ave NW
Washington, D.C. 20036
(202) 857-0166

VIII. Special Terms and Conditions

1. The Foundation will, in coordination with the Service, select the most appropriate investment option for the contributed/donated funds. Primary consideration will be given to selecting extremely safe investments with the highest possible yield. Interest and/or dividends accruing to the account shall be available for the purposes for which the funds were contributed or donated.

2. Funds may be dispersed by the Foundation for purposes not included in the Implementation Committee's annual work plan at the written direction of the Service's designated representative for this agreement and concurrence of the Chairman of the Implementation Committee.

IX. Amendments

Amendments to this Agreement may be proposed by either party, and shall become effective only upon being reduced to a written instrument executed by both parties.

X. Termination

This Agreement may be terminated by either party upon 90 days written notice to the other. Upon receipt of such written notice, the Foundation will provide an accounting of remaining funds and outstanding contractual obligations of funds. In the case of termination, the Service will make arrangements for transferring the funds administered by the Foundation to another entity, or renegotiate an alternative agreement with the Foundation.

XI. General Provisions

The U.S. Fish and Wildlife Service General Provisions for Grant and Cooperative Agreements, as attached, shall be applicable to this Agreement.

In witness whereof, each party has caused this Agreement to be executed by an authorized official on the day and year set forth below their signature.

National Fish and Wildlife Foundation

BY _____

TITLE Executive Director

DATE 5/17/89

U.S. Fish and Wildlife Service

BY _____
GALEN L. BUTERBAUGH

TITLE Regional Director

DATE JUN 14 1989

TRANSCOLORADO
GAS TRANSMISSION COMPANY

David C. Flaim, Sr. Coordinator
of Environmental Affairs

November 30, 1992

Mr. LeRoy W. Carlson
Colorado State Supervisor
U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
730 Simms Street, Suite 290
Golden, Colorado 80401

RE: TransColorado Pipeline Project: Final Biological Opinion

Dear Mr. Carlson:

The U.S. Fish & Wildlife Service (Service) has indicated that TransColorado Gas Transmission Company (TransColorado) should implement the conservation recommendations listed in the final biological opinion. The term conservation recommendations is defined as suggestions of the Service to minimize or avoid adverse effects of the TransColorado project on listed species or critical habitat.

TransColorado has not seen an official copy of the final biological opinion; however, the Bureau of Land Management has faxed segments of the biological opinion which identifies the conservation recommendations. Nine conservation recommendations are identified in the final biological opinion. Four apply to the San Juan Basin in New Mexico, one applies to incidental take, three apply to the Uinta Basin Hookless Cactus and one applies to the Ute Ladies'-Tresses orchid.

TransColorado agrees with the conservation recommendations with the understanding that mutually agreed upon modifications may become necessary after final engineering design.

MAILING ADDRESS:
POST OFFICE BOX 281304
LAKEWOOD, COLORADO 80228-9304

PHONE: (303) 980-2560
FAX: (303) 980-9244

STREET ADDRESS:
12055 W. 2ND PLACE
LAKEWOOD, COLORADO 80228-1506

If you have any questions or require additional information, please call me at (801)530-2522.

Sincerely,

David C. Flaim

David C. Flaim

ATTACHMENT 3

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

November 30, 1992

Mr. Alan L. Kesterke
District Manager
U. S. Department of the Interior
Bureau of Land Management
2465 South Townsend
Montrose, Colorado 81401

Dear Mr. Kesterke:

Thank you for the opportunity to review Alpine Archaeological Consultants, Inc.'s revised report entitled Treatment Plan and Research Design for the Cultural Resource Mitigation Phase of the Planned TransColorado Natural Gas Pipeline, Western Colorado and Northwestern New Mexico.

We find this plan acceptable, and we look forward to the successful implementation of this project.

Sincerely,

Susan M. Collins, SHPO

Susan M. Collins
State Archaeologist

SMC:ng

ATTACHMENT 4

STATE OF NEW MEXICO
OFFICE OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BRUCE KING
GOVERNOR

VILLA RIVERA BUILDING
228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87503
(505) 827-6320

THOMAS W. MERLAN
DIRECTOR

HELMUTH J. NAUMER
CULTURAL AFFAIRS OFFICER

November 25, 1992

Alan L. Kesterke
District Manager
Montrose District
Bureau of Land Management
2465 South Townsend
Montrose, Colorado 81401

Dear Mr. Kesterke:

Thank you very much for the revised treatment plan and research design for the cultural resources to be affected by the proposed TransColorado natural gas pipeline. I think that the Bureau has been very responsive to the concerns of those agencies and interested parties who commented on the draft, and Alpine Archaeological Consultants have done a good job of identifying research issues and developing a data recovery plan for a very varied collection of historic and prehistoric properties.

I also feel that the overall strategy adopted for mitigation of the effects of this undertaking is a good one and is responsive to both the Section 106 and Section 110 responsibilities of the involved federal agencies. Too often these pipeline projects end up with little strips excavated through all the sites, a process that does not take into account the indirect effects of the undertaking and that yields far less usable archaeological data than whole site excavation. By adopting a strategy calling for whole site excavation on a sample of the sites affected by this undertaking, the BLM is taking a proactive approach to management, an aggressive approach to mitigation of effects, and acquiring high quality data as a trade-off for the necessary destruction of archaeological resources.

I look forward to reviewing the results of the mitigation project.

Sincerely,

Lynne Sebastian
Deputy State Historic Preservation Officer

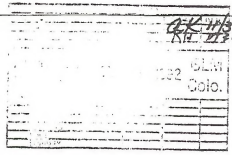
ls: log 37935

Advisory Council On Historic Preservation

ATTACHMENT 5

The Old Post Office Building
1100 Pennsylvania Avenue, NW, #809
Washington, DC 20004

Reply to: 730 Simms Street, #401
Golden, Colorado 80401



November 23, 1992

Mr. Alan L. Kesterke
District Manager
Bureau of Land Management
Montrose District Office
2465 South Townsend
Montrose, CO 81401

REF: Treatment Plan and Research Design for the Cultural Resource Mitigation Phase of the Planned TransColorado Natural Gas Pipeline, Western Colorado and Northwestern New Mexico

Dear Mr. Kesterke:

On November 16, 1992, we received the referenced document for our review and comments. We have reviewed the Plan and concur with its adequacy and responsiveness to the informational values of the properties affected by the undertaking. Please keep us informed of any changes which may occur to the Plan; particularly to Appendixes B and C.

We appreciate your support in this matter, and the efforts of Mr. Rich Fike of your staff to ensure that the cultural resource research conducted for this undertaking is of the highest quality and produces the most benefits for the investment. The Plan represents a fairly unique research approach compared to similar undertakings we have reviewed. We anticipate that this approach will result in a meaningful and important contribution to our understanding of the historic and prehistoric past in Western Colorado and Northwestern New Mexico.

We have enjoyed working with Mr. Fike throughout these deliberations, and look forward to continued interaction with you and your staff. If you have any questions regarding these matters, or if we can be of further assistance, please contact Alan Stanfill at (303) 231-5320.

Sincerely,

Claudia Nissley
Director, Western Office
of Project Review

RECORD OF DECISION

TRANSCOLORADO GAS TRANSMISSION PROJECT

Prepared by

USDA FOREST SERVICE

RECORD OF DECISION

TRANSCOLORADO GAS TRANSMISSION PROJECT
Final Environmental Impact Statement

USDA Forest Service
San Juan and Grand Mesa, Uncompahgre and Gunnison National Forests
Montrose, San Miguel, Dolores, Montezuma, and La Plata Counties, Colorado

I. DECISION AND REASONS FOR THE DECISION

INTRODUCTION

In January 1990, TransColorado Gas Transmission Company (TransColorado) applied to the Forest Service and Bureau of Land Management (BLM) to construct, operate and maintain a 22 to 24-inch natural gas transmission pipeline in western Colorado. The proposed pipeline location extended from generally west of Meeker, Colorado to southeast of Durango, Colorado. In the spring of 1990, the proposed pipeline terminus was extended to Blanco, New Mexico. An application was submitted to the Federal Energy Regulatory Commission (FERC) when the proposed pipeline location was extended into New Mexico.

The BLM has the administrative responsibility and lead for the preparation of draft and final environmental impact statements (FEIS) on the proposed project. The Forest Service and FERC are cooperating Federal agencies with primary review responsibilities. The three Federal agencies (Forest Service, BLM and FERC) are issuing separate decisions on the proposed project related to their different areas of responsibility for the proposed project. FERC has the authority to determine if the proposed project is needed. On July 20, 1990, FERC issued a preliminary determination that granting a certificate authorization for TransColorado's facilities solely on the basis of non-environmental issues would be a public convenience and necessity. The TransColorado FEIS will serve as the basis for FERC's determination on the environmental aspects of the proposed project.

The proposed pipeline will be located on private lands and on lands managed by the Forest Service, BLM, and the State of Colorado. The BLM issues right-of-way (ROW) grants for the location of natural gas pipelines on Federal lands when both BLM and Forest Service are involved. The Forest Service cooperates with the BLM in determining the location of natural gas pipelines on National Forest System lands (NFS lands). The FERC issues Certificates of Public Convenience and Necessity which authorize pipelines as well as construction on state and private lands. Additional grants, permits and licenses required for implementation of the project are listed in Table 1-3 on pages 18 and 19 of the FEIS.

I am making three separate decisions. First, to select the location of the pipeline on the Uncompahgre and San Juan National Forests. Second, to amend the respective National Forest Land and Resource Management Plans designating, where needed, those locations as utility corridors. And third, to determine how the proposed pipeline will be built and operated on NFS lands, and the subsequent administration of the ROW.

DECISIONS

My decisions are to:

1. **Select the FEIS agency preferred alternative for the proposed TransColorado natural gas pipeline on NFS lands.** A legal description of the location of the FEIS agency preferred alternative (agency preferred) is included as attachment A to this decision.

Through this decision, I am notifying Alan L. Kesterke, BLM Montrose District Manager and also the BLM Authorized Officer for the project, that if the proposed pipeline crosses NFS lands, it shall be in the agency preferred location and the BLM ROW grant shall be for a non-exclusive granted 50-foot wide ROW with an additional temporary construction work space of 25 feet. The designated Forest Service authorized officers for administration of the BLM ROW grant are the Forest Supervisors of the Grand Mesa, Uncompahgre and Gunnison National Forests and the San Juan National Forest.

Additional temporary construction work space needed beyond the 25 feet allowed by the BLM ROW grant will be applied for on the affected Ranger District. Approval of the additional space will be subject to the results of further environmental analysis and, if granted, will be through a temporary special use permit issued by the District Ranger.

2a. **Amend the Grand Mesa, Uncompahgre, and Gunnison National Forests Land and Resource Management Plan.** Amendment 2/2 to the Grand Mesa, Uncompahgre and Gunnison National Forests Land and Resource Management Plan designates the Redvale utility corridor for buried utilities as shown and analyzed in Appendix A of the TransColorado FEIS. I have determined that this is not a significant amendment to the Forest Plan. The addition of this utility corridor does not cause significant changes in the multiple-use goals and objectives for long-term land and resource management and only minor changes in standards and guidelines. Amendment 2/2 is attachment B to this decision. The Redvale utility corridor is a part of the agency preferred alternative route in the TransColorado FEIS.

2b. **Amend the San Juan National Forest Land and Resource Management Plan.** Amendment No. 17 to the San Juan National Forest Land and Resource Management Plan designates the Modified Mancos Valley East utility corridor for buried utilities as shown and analyzed in Appendix A of the TransColorado FEIS. I have determined that this is not a significant amendment to the Forest Plan. The addition of this utility corridor does not cause significant changes in the multiple-use goals and objectives for long-term land and resource management and only minor changes in standards and guidelines. Amendment No. 17 is attachment C to this decision. The Modified Mancos Valley East utility corridor is a part of the agency preferred alternative route in the TransColorado FEIS. Future pipelines or other buried utilities will use this corridor or the other existing corridors on the San Juan National Forest in the Mancos/Dolores area. No new utility corridors will be considered on NFS lands until it is determined that these corridors are fully occupied.

3. **Require the environmental protection measures in Table 2-12, "Environmental Protection Measures for Federal Lands" (pages 99 to 113 of the FEIS) and Table 2-13, "Site Specific Environmental Protection Measures" (pages 114 to 119 of the FEIS) be utilized where applicable for the TransColorado project on NFS lands.** The application of these measures will be covered specifically in the TransColorado Final Plan of Development (POD) which must be approved by the respective Forest Supervisors before any construction notice to proceed on NFS lands may be issued. Additional site specific environmental protection measures, such as those needed for individual steep canyon crossings, will be determined by further studies or engineering design and will be included in the POD. The POD is a project specific plan which serves to document project decisions, requirements and implementation methods. Tables 2-12 and 2-13 are Attachment D to this decision.

Project implementation monitoring will be done as prescribed in the Monitoring and Compliance section of the FEIS on pages 94 to 96. There will be at least one Forest Service inspector per construction spread with a Forest Service project coordinator overseeing all activities. Job descriptions detailing the project coordinator and inspector's duties and authorities will be included in the POD. Monitoring of pipeline operations after construction is completed will be done through normal Forest Service permit administration procedures.

Applicable Laws, Regulations, and Policies

The authority to grant natural gas pipeline rights-of-way on Federal lands is promulgated to the BLM by the Mineral Leasing Act of 1920, as amended, the implementing regulations contained in 43 CFR 2800 and 2880, and the policy guidance contained in BLM Manual 2800.

The National Forest Management Act of 1976 (NFMA) requires development, maintenance, amendment, and revision of land and resource management plans (LRMP) for each unit of the National Forest System. The LRMPs specify a management system that provides for an interdisciplinary approach for integrated consideration of physical, biological, economic, and other sciences to be applied to all future actions on the unit [16 U.S.C. 1604(b), 1604(f), 1604(g), and 1604(i). This management system is to assure coordination of the "multiple-uses" and "sustained-yield of products and services" of the National Forest System [16 U.S.C. 1604(e)(1)].

The 36 CFR 219 regulations promulgated under the National Forest Management Act address:

(1) Consistency of future decisions with LRMPs [36 CFR 219.10(e) and 219.12(k)];

(2) Amendment of LRMP's [36 CFR 219.10(f)]; Interim Directive Amendment, and Revision January 13, 1986, (51 Fed. Reg. 1476), reissued February 13, 1987, (52 Fed. Reg. 4632); and

(3) Revision of LRMP's [36 CFR 219.10(g)].

Monitoring and evaluation, and amendments and revisions help to ensure that LRMPs maintain the dynamic nature required by NFMA. I am approving the two Forest Plan amendments under the authority granted to me through the NFMA and it's implementing regulations at 36 CFR 219.37(a)(c) and 219.10(f).

Issues Considered and Addressed

The overall impacts of the proposed pipeline construction and operation on the natural environment is of concern to me with the following factors being specifically considered in my decisions:

The amount of affected natural environment (when there are no significant environmental effects) in relationship to the length of pipeline routes being considered.

Impacts to topography - Slope stability in difficult canyon crossings in the Dolores-Mancos area and incised channels in the Ryman Creek area.

Impacts to soils - Continued productivity of soils after pipeline construction and the poor productivity of saline/alkaline soils in the Ryman Creek area.

Impacts to threatened and endangered species - Potential Mexican Spotted Owl habitat is present.

Impacts to cultural resources - Significant cultural resources are found throughout the general area.

Impacts to visual resources - Maintaining the natural appearing landscape which is one of the more significant resources of the National Forests.

Impacts to transportation - The affects on the National Forest road system and the road system surrounding the Forests.

The potential effects on the social and economic well being of private landowners (Mancos Valley and Norwood areas) with the pipeline located on private land as compared to the pipeline being located on public lands.

The need for a new utility corridor in the Mancos Valley area as compared to utilizing one of the two existing corridors.

The best location for a pipeline utility corridor in the Norwood area while still considering the affects on key natural resources in the area.

The Reasons For My Decisions

The agency preferred alternative best addresses the issues as discussed below:

Although the decisions I am making are only for NFS lands, my consideration of effects must necessarily extend beyond NFS lands. The location of the pipeline on NFS lands will influence it's location on private, state and BLM Public lands. Accordingly, I am coordinating my decision with Alan L. Kesterke, BLM Montrose District Manager and also the BLM's Authorized Officer for this proposed project.

The USFS Utility Corridor analysis, Appendix A of the FEIS, shows that all study area corridors are suitable for designation as utility corridors for pipelines. I conclude that all segments studied are suitable and can be used for other buried utilities.

The application of the environmental protection measures listed in Tables 2-12 and 2-13 in the FEIS will allow satisfactory construction and operation of the proposed pipeline for most locations along the agency preferred route. Although there are still some site specific environmental protection measures to be worked out, such as on individual canyon crossings, I am satisfied that the pipeline can be built and operated in an environmentally satisfactory manner on the agency preferred route corridor.

Specific elements considered for affected natural resources are:

The agency preferred route is the shortest route considered in the FEIS. In general, natural resources are least affected by the shortest pipeline. From San Miguel River to Stoner (Segment #2 - Fig. B-2, Appendix B, FEIS), the agency preferred route is 8 miles shorter than the TransColorado proposed route. The agency preferred route is 7 miles shorter than the TransColorado proposed route from Stoner to Mancos Hill (Segment #3 - Fig. B-3, Appendix B, FEIS).

Sergent, Hauskins and Beckwith (SHB) conducted site specific geotechnical slope stability investigations (December 18, 1991 report) on the agency preferred route for the Dolores River, Lost Canyon, Chicken Creek, West Mancos River, and Middle Mancos River canyon crossings as well as some canyon crossings on the TransColorado proposed route. Based on their conclusions and recommendations, I am satisfied that the canyon crossings on the agency preferred and TransColorado proposed routes can be done without creating significant land slide problems. The canyon crossings on

the agency preferred route are more difficult to construct than those on TransColorado's proposed route, but, based on the SHB report, it appears that the risk of slope failures is essentially the same for both routes.

The environmental protection measures listed under the soils and vegetation sections of Table 2-12 in the FEIS are adequate to maintain soil productivity and reestablish vegetation on the pipeline ROW and other disturbed areas in most areas. Stripping and stockpiling of available topsoil is particularly important in protecting soil productivity.

Considerations in selecting the agency preferred route over the TransColorado proposed route from the San Miguel River to Stoner were the incised channels and poor saline/alkaline soils present on the TransColorado proposed route in the Ryman/Spring Creek area and the poor rehabilitation potential these soils have.

Soils and incised channels are considered, but not a significant factor in my selection of the route from Stoner to Mancos Hill.

No adverse effects to threatened or endangered species have been identified on NFS lands or adjacent lands (U. S. Fish and Wildlife Service's (USFWS) biological opinion - Attachment E), therefore they are not a important factor in my routing decisions.

No adverse effects to significant cultural resources have been identified on NFS lands. Therefore, they are not a important factor in my routing decisions. (Final TransColorado Research and Treatment Plan for Cultural Resources, Nov., 1992). Concurrence with the proposed treatment of cultural resources has been obtained from all responsible agencies involved in the project, including the Colorado State Historic Preservation Officer (SHPO). Attachment F to this decision is the document showing SHPO concurrence.

Most of the potential visual impacts have been mitigated through application of the environmental protection measures shown in the section on visual resources in Table 2-12 (FEIS p. 110). Only one location (Dolores River Canyon) on the agency preferred route as compared to three locations on the TransColorado proposed route will not meet Forest Service visual quality objective guidelines on NFS lands. The location on the agency preferred route is on the south side of the Dolores River Canyon crossing and is partially on the San Juan National Forest and partially on adjacent private land.

Better road access (gravel instead of dirt) was a factor in deciding to select the agency preferred route over the TransColorado proposed route from the San Miguel River to Stoner. The existing roads on the TransColorado proposed route in the Ryman Creek area are mainly dirt and would require improvement for pipeline construction. Forest Service road management objectives are to maintain the road system as existing with improvements only made for safety items.

From Stoner to Mancos Hill more road improvements are required for pipeline construction on the agency preferred route than on the other routes considered. However, these road improvements are needed and I do not consider them to be an adverse impact.

The issue of whether to locate the pipeline on private or public lands is of general concern to the public, and of particular concern to private land owners with pipelines located on or adjacent to their lands. At the public meetings, the public indicated that the pipeline should be located on public lands.

In this instance, this private vs public lands concern is a factor in my selecting the agency preferred route from Stoner to Mancos Hill. Nearly all of this route is an existing utility corridor on NFS lands (San Juan NF).

It is also a factor in my selecting the revised agency preferred route from the San Miguel River to Stoner because more NFS lands (FEIS agency preferred route compared to the draft EIS (DEIS) agency preferred route - Fig B-2, Appendix B, FEIS) are utilized in the agency preferred route on the Uncompahgre National Forest.

The TransColorado proposed route from the San Miguel River to Stoner is located more on federal lands (Forest Service and BLM) than private lands in comparison to the agency preferred route. However, other factors such as route length, poor soils, incised channels, and road improvement needs preclude my selecting the TransColorado proposed route in this segment.

A significant factor in selecting the agency preferred route from Stoner to Mancos Hill, was whether to establish a new utility corridor (TransColorado proposed route) or to utilize one of the two existing corridors; the Mancos Valley utility corridor (DEIS agency preferred route) and the San Juan NF 345 kV power transmission corridor (agency preferred route). I have decided the existing San Juan NF 345 kV powerline location (agency preferred route) is the better location because it is already impacted by utility facilities; it can accommodate multiple pipelines and other buried utilities; it is the shortest route; and, by utilizing it, a new corridor will not have to be established.

One of the factors in my route selection from the San Miguel River to Stoner is the route's capacity to absorb impacts if additional pipelines are built. After the public comment period on the DEIS, a new route was developed which avoids the public concern area SE of Norwood and provides a good location for a buried utilities corridor. The new route was presented to the Norwood area public and was generally accepted. This route is the agency preferred route. I am selecting this route because it helps to satisfy the public's concern and the Forest Service's concern about the poor soils and incised channels in the Ryman Creek area and eliminates the need to improve the roads.

Use of the Environmental Impact Statement

In making these decisions, the information in the TransColorado FEIS, including the USFS Utility Corridor Analysis in Appendix A, was used extensively. The alternatives considered were those discussed in the FEIS, including the route variations discussed and compared in Appendix B. The environmental effects of the alternatives and route variations are described in the FEIS and were used in making these decisions.

II. PUBLIC INVOLVEMENT CONDUCTED

Public Participation

A notice of intent to prepare an EIS was published in the Federal Register on March 15, 1990. Scoping for the project was done through interagency and public meetings held from June 1990 to October 1990 along with numerous informal meetings with interested agencies, local governments and the public throughout the EIS process (FEIS p. 25 - 29). A DEIS was prepared and circulated for public comment on August 23, 1991. The DEIS displays a federal (BLM, Forest Service and FERC) agency preferred alternative as well as a Forest Service utility corridor analysis in Appendix A. In addition to accepting written comments, public hearings were held to receive oral comments on the DEIS. After reviewing and answering comments on the DEIS (FEIS p. 273 - 415), the DEIS was revised into the FEIS. The FEIS displays a different agency preferred alternative than the DEIS and includes a revised Forest Service corridor analysis in Appendix A. The FEIS was published on July 17, 1992.

Pipeline location in the Mancos Valley area is a highly controversial issue. Many individuals and local government officials participated in the scoping meetings and DEIS public hearings. Their concerns and comments during the EIS public participation process resulted in additional routes being considered and contributed to my decision to place the pipeline on a route that is mainly on NFS lands in that area. The

Norwood area is also an area where pipeline location is highly controversial. These concerns were considered and were a factor in my decision for the pipeline location in the Norwood area.

The Issues

The following issues covering the entire pipeline project are presented in the FEIS (pages 29 AND 31):

> **Impacts to air quality (noise), topography, leasable minerals, mineral materials, surface water quality and quantity, municipal water supplies, wetlands, soils, prime farmland and farmland of statewide importance, forestry, livestock grazing, wildlife, fisheries, threatened and endangered species, cultural resources, paleontological resources, Native American religious concerns, visual resources, areas of critical environmental concern, transportation, solid waste facilities, public safety and socioeconomic conditions including local residents & land owners.**

The Mancos Valley residents are very interested in the proposed project. There is widespread mistrust and concern because of past performance by other pipeline companies in land rehabilitation efforts on private lands. There is a strong positive feeling of private property rights and negative feelings toward the right of condemnation by the utility industry. Because of these viewpoints, the majority of Mancos Valley citizens who live along the Mancos Valley Corridor (DEIS agency preferred route), do not want their property crossed by any future pipeline or other utilities. In response to citizen concerns, the Montezuma County Commissioners passed a resolution in 1986 "closing" the Mancos Valley Corridor to future pipeline construction. In addition, there is a public concern in the area and throughout the project area that there is a disproportionate use of private land relative to available public lands (BLM and Forest Service).

The following issues are specific to the Forest Service Utility Corridor Analysis in Appendix A of the TransColorado FEIS (pages A-2 to A-5):

> **Concern has been expressed about whether there really is a need for a new utility corridor in the Mancos Valley area, and about establishing it on both NFS lands and private lands in the Mancos Valley.** There are two existing utility corridors in the area. One mainly on private land (Mancos Valley corridor/DEIS agency preferred route) and the other mainly on NFS lands (345 kV powerline corridor/ agency preferred route). Private landowners located on routes considered for new corridors feel the route should be on an already impacted, existing corridor. Private landowners on the existing Mancos Valley corridor feel they have enough pipelines and powerlines on their lands and that a new route is needed around them.
>
> **Concerns were expressed about slope stability on canyon crossings on the proposed route and the 345 kV powerline route (agency preferred route) in the Dolores-Mancos area.**
>
> **Concern was expressed about establishing a new pipeline utility corridor southeast of Norwood along the Norwood-Dolores road (DEIS agency preferred route).** The public believes the DEIS agency preferred route is not a good location for one pipeline much less a pipeline corridor, because it follows the main tourist access route in the area (Dolores-Norwood road). The public feels that the impacts of pipeline construction will make it a less desirable area for tourists. Also, the route goes through irrigated farmland, and the public feels irrigated farmland should be avoided as much as possible.
>
> **Two additional issues were noted:** One was the determination to analyze the potential utility corridors on NFS lands assuming four pipelines must be accommodated. The other was that BLM and Forest Service policies on utility corridors differ. Both issues are process oriented and did not effect my decision on designating utility corridors.

III. ALTERNATIVES CONSIDERED

After public scoping and data gathering, six alternatives were initially formulated for consideration. The following three alternatives (p. 96-98, FEIS) were considered but eliminated from detailed analysis:

Energy Conservation - As a result of public scoping, the alternative of applying energy conservation measures rather than build another pipeline to supply more natural gas was considered. Due to the demand for cleaner air, it is felt that the demand for natural gas, which burns cleaner, will be increased regardless of any conservation measures applied, so this alternative was eliminated from further consideration.

Pipeline System Alternatives - The pipeline system alternative would meet the stated objectives of the proposed project by making use of an existing or modified pipeline delivery system.

The Northwest Pipeline Corporation System was evaluated as an alternative to the TransColorado project. Due to additional facilities required to construct the Northwest System alternative and the fact that it does not offer any significant environmental advantage over the TransColorado project, this alternative was eliminated from further consideration.

Two proposed natural gas pipelines (CIG Uinta Basin Lateral & Questar Main Line No. 58 Upgrade) to carry northern Piceance Basin natural gas would provide increased capacity, but not for the southern portion of the basin or the Paradox Basin. These proposed pipeline projects do not represent full system alternatives to the TransColorado project and were eliminated from consideration.

End Use Pipeline Alternative - An end use pipeline is an existing or proposed pipeline system that could potentially deliver the equivalent of 300 MMcfd of natural gas proposed for transport by TransColorado to the same end use market. Several pipelines were analyzed under defined criteria and only the Kern River pipeline could meet the criteria. The Kern River pipeline capacity is already completely subscribed. Because of existing capacity constraints and because an expansion of the Kern River system did not offer a significant environmental advantage over the TransColorado project, this alternative was eliminated from consideration.

The three fully considered and analyzed alternatives presented in the FEIS and the route variations in Appendix B utilize the environmental protection measures from Tables 2-12 and 2-13 (Attachment D to this decision), and the monitoring and compliance methods listed on pages 94 to 96 of the FEIS. The pipeline will be constructed, operated and maintained as described in Chapter 2 of the FEIS. I fully considered the three alternatives and the route variations to them. The alternatives are:

The Proposed Action - The proposed pipeline will be 306 miles long. The outside diameter will be 22 inches for a distance of 264 miles and 24 inches for a distance of 42 miles. The design flow rate will be 300 million cubic feet of natural gas per day (MMcfd). Approximately 52% of the proposed route will be on BLM public lands (104 miles) and NFS lands (55 miles).

Associated with the pipeline are 6 compressor stations and 6 meter sites. The compressors will occupy approximately 5 acres each and the meter sites about 1/4 acre each. Block valves, pigging facilities, corrosion protection facilities and communication facilities will also be included in the project. They will be located within the granted ROW or at compressor station and meter station sites.

The pipeline will be constructed within a 75-foot-wide construction ROW, but the granted ROW will be 50 feet in width. Total disturbance for pipeline construction will be 2,865 acres, including the construction ROW, compressor stations, meter stations and other related facilities for the proposed pipeline.

The Agency Preferred Alternative - The agency preferred alternative is 290 miles in length. The outside diameter will be 22 inches for a distance of 248 miles and 24 inches for a distance of 42 miles. Compressor, metering and other associated facilities will be the same (although using some different sites) as for the proposed action as well as the design flow rate. Approximately 47 percent of this alternative is located on BLM public lands (87 miles) and NFS lands (50 miles).

Construction, operation and maintenance of the proposed pipeline will be the same as the proposed action with the exception of two routing changes. Routing will be different in the Norwood/Ryman Creek areas and in the Mancos Valley area with shorter routes than in the proposed action. Total disturbance for pipeline construction will be 2,693 acres.

The No Action Alternative - Under the no action alternative the project will not be built. It is anticipated that an alternative pipeline proposal will be presented to permitting agencies if the TransColorado pipeline is not constructed.

IV. FINDINGS REQUIRED BY OTHER LAWS

The TransColorado FEIS was developed in compliance with the NFMA and the NEPA. This decision is consistent with the Grand Mesa, Uncompahgre and Gunnison and San Juan National Forests, LRMPs through the use of amendments made to each respective LRMP.

The project is in compliance with the Endangered Species Act as there will be no adverse effects upon any threatened or endangered species (Attachment E - USFWS BO). No adverse effects to significant cultural resources will occur (Attachment F - SHPO concurrence), therefore the project is in compliance with the National Historic Preservation Act. All water and air quality standards will be met by the project. All practicable means to avoid or minimize environmental harm have been adopted.

V. THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The environmentally preferable alternative is the alternative causing the least impact to the biological and physical environment and the alternative which best protects, preserves and enhances historic, cultural and natural resources. A detailed discussion of the environmental effects of each alternative is included in Chapter 4 of the FEIS.

The No Action Alternative is the environmentally preferable alternative. It was not selected because: 1) FERC has determined that the project is needed on the basis of non-environmental issues and is using the FEIS for determining the environmental aspects of the project; and 2) The selected alternative, the agency preferred, can be accomplished in an environmentally satisfactory manner.

VI. IMPLEMENTATION DATE

Implementation of this decision may take place 7 days from publication of a legal notice in the Denver Post.

VII. ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

This decision is subject to appeal pursuant to 36 CFR Part 217. To initiate an appeal, a written notice must be submitted, in duplicate, to F. Dale Robertson, Chief, USDA Forest Service, P.O. Box 96090, Washington, D.C. 20090-6090, within 45 days of the date or the published legal notice.

Any notice of appeal must include, at a minimum:

(1) Statement that the document is a Notice of Appeal filed pursuant to 36 CFR Part 217;
(2) Name, address and telephone number of the appellant;
(3) Identification of the decision about which the objection is being made;
(4) Identification of the document in which the decision is contained, by title and subject, date of the decision, and name and title of the Deciding Officer:
(5) Identification of the specific portion of the decision to which objection is made;
(6) Reasons for objection including issues of fact, law, regulation, or policy, and, if applicable, specifically how the decision violates law, regulation, or policy; and
(7) Identification of the specific change(s) in the decision that the appellant seeks.

For further information concerning this decision or the Forest Service Appeal process contact:

Miles F. Weaver, TransColorado Project Coordinator
Grand Mesa, Uncompahgre and Gunnison National Forests
2250 Highway 50
Delta, CO 81416
303-874-7691

TOM THOMPSON
Deputy, Regional Forester
Rocky Mountain Region
11177 West 8th Avenue, P.O. Box 25172
Lakewood, CO 80225

12/1/92
Date

ATTACHMENTS to the RECORD OF DECISION

TRANSCOLORADO GAS TRANSMISSION PROJECT

FINAL ENVIRONMENTAL IMPACT STATEMENT

USDA - FOREST SERVICE

Attachment A

Legal description of approved route

Attachment B

Grand Mesa, Uncompahgre and Gunnison National Forests LRMP Amendment Number 2/2

Attachment C

San Juan National Forest LRMP Amendment Number 17

Attachment D

Table 2-12 - Environmental Protection Measures for Federal Lands

and

Table 2-13 - Site Specific Environmental Protection Measures

Attachment E

U.S. Fish and Wildlife Service Biological Opinion

Attachment F

Colorado State Historic Preservation Officer concurrence letter

Attachment A
Record of Decision - TransColorado FEIS
Legal Descriptions of Approved Route for
National Forest System Lands in Colorado

UNCOMPAHGRE NATIONAL FOREST

Montrose Co.

T.48N., R.12W., NMPM
Sec. 2: N½NE¼, SW¼NE¼, S½NW¼, W½SW¼
Sec. 11: W½NW¼
Sec. 10: SE¼NE¼, E½SE¼
Sec. 15: NE¼NE¼, SW¼NE¼
Sec. 22: W½NE¼, SE¼NW¼, NE¼SW¼, W½SW¼
Sec. 28: E½NE¼, NE¼SE¼
Sec. 33: E½NE¼, E½SE¼
T.47N., R.12W., NMPM
Sec. 10: SE¼NW¼, E½SW¼
Sec. 15: E½NW¼, N½SW¼
Sec. 16: E½SE¼, SW¼SE¼
Sec. 21: W½NE¼, SE¼NW¼, NE¼SW¼, W½SW¼
Sec. 20: SE¼SE¼
Sec. 29: NE¼NE¼, W½NE¼, SE¼NW¼, NE¼SW¼, W½SW¼
Sec. 30: SE¼SE¼
Sec. 31: N½NE¼, SW¼NE¼, S½NW¼, NW¼SW¼
T.47N., R.13W., NMPM
Sec. 36: E½SE¼, SW¼SE¼
T.46N., R.13W., NMPM
Sec. 1: NW¼NE¼, E½NW¼, SW¼NW¼
Sec. 11: NW¼NE¼, N½NW¼, SW¼NW¼
Sec. 10: W½SE¼, SE¼SW¼
Sec. 15: N½NW¼, SW¼NW¼
Sec. 16: SE¼NE¼, N½SE¼, SW¼SE¼

San Miguel Co.

T.44N., R.14W., NMPM
Sec. 15: NW¼, E½
Sec. 14: SW¼
Sec. 23: W½
Sec. 26: W½
Sec. 35: W½NW¼, W½SW¼, SE¼SW¼

SAN JUAN NATIONAL FOREST

Dolores Co.

T.40N., R.14W., NMPM
Sec. 33: N½NE¼, SE¼NE¼, E½SE¼
Sec. 34: SW¼SW¼
T.39N., R.14W., NMPM
Sec. 3: W½NW¼, W½SW¼

Sec. 10: NW¼NW¼
Sec. 9: E½NE¼
Sec. 16: NE¼NE¼, W½NE¼, W½SE¼

Montezuma Co.

T.39N., R.14W., NMPM
Sec. 21: W½NE¼, W½SE¼
Sec. 28: NW¼NE¼, S½NE¼, NE¼SE¼
Sec. 27: W½SW¼, SE¼SW¼
Sec. 34: NE¼NW¼, W½NE¼, SE¼NE¼, NE¼SE¼, SW¼SE¼
T.38N., R.14W., NMPM
Sec. 3: N½NE¼, S½NE¼, NE¼SE¼, S½SE¼
Sec. 10: E½NE¼
Sec. 11: N½NW¼, SE¼NW¼, W½NE¼, SE¼NE¼, NE¼SE¼
Sec. 12: N½SW¼, SE¼SW¼, S½SE¼
Sec. 13: NE¼NE¼
T.38N., R.13W., NMPM
Sec. 18: NW¼NW¼, E½NW¼, SW¼NE¼, N½SE¼
Sec. 17: N½SW¼, SE¼SW¼, SW¼SE¼
Sec. 20: W½NE¼, SE¼NE¼
Sec. 21: SW¼NW¼, W½SW¼
Sec. 28: N½NW¼, SE¼NW¼, NE¼SW¼, W½SE¼, SE¼SE¼
Sec. 33: E½NE¼
Sec. 34: SW¼NW¼, W½SW¼, SE¼SW¼, S½SE¼, NE¼SE¼, SE¼NE¼
Sec. 35: S½NW¼, E½SW¼, SW¼SE¼
T.37N., R.13W., NMPM
Sec. 2: W½NE¼, SE¼NE¼, E½SE¼, SW¼SE¼
Sec. 11: N½NE¼, SE¼NE¼, SE¼SE¼
Sec. 12: SW¼NW¼, W½SW¼
Sec. 14: NE¼NE¼, E½SE¼
Sec. 23: E½NE¼
Sec. 24: S½NW¼, E½SW¼
Sec. 25: NE¼NW¼, W½NE¼, NW¼SE¼, E½SW¼
T.37N., R.12W., NMPM
Sec. 31: SW¼NW¼, NW¼SW¼, E½SW¼
T.36N., R.12W., NMPM
Sec. 6: NE¼NW¼, W½NE¼, W½SE¼
Sec. 7: NW¼NE¼, E½NE¼, E½SE¼
Sec. 8: SW¼SW¼
Sec. 18: NE¼NE¼
Sec. 17: W½NW¼, W½SW¼
Sec. 20: W½NW¼
Sec. 29: N½NW¼, W½NE¼, SE¼NW¼, E½SW¼

La Plata Co.

T.36N., R.12W., NMPM
Sec. 32: NE¼NW¼, SW¼NE¼

ATTACHMENT B

LAND AND RESOURCE MANAGEMENT PLAN
GRAND MESA, UNCOMPAHGRE AND GUNNISON NATIONAL FORESTS

AMENDMENT NUMBER 2/2

DECEMBER, 1992

Reason for this Amendment

This amendment is necessary to reflect the approval of the TransColorado Natural Gas Transmission line route on the Uncompahgre National Forest. A portion of the route is not in a designated utility corridor as required to be consistent with the Forests' Land and Resource Management Plan. This amendment designates the non-designated portion of the route on the Uncompahgre National Forest as a management prescription 1D utility corridor for buried utilities (including pipelines) and adds additional forest direction for utility corridors to management prescription 1D.

The attached map (Exhibit I) shows the designated general location of the buried utilities corridor. The location of the corridor has been reviewed on-the ground and is documented in the detailed TransColorado project survey maps which are on file.

Add additional forest direction for management prescription 1D to the Forest Plan. Insert in Chapter III, page III-98 at the end of general direction for "Rights-Of-Way and Land Adjustments" additional general direction requirements which read as follows:

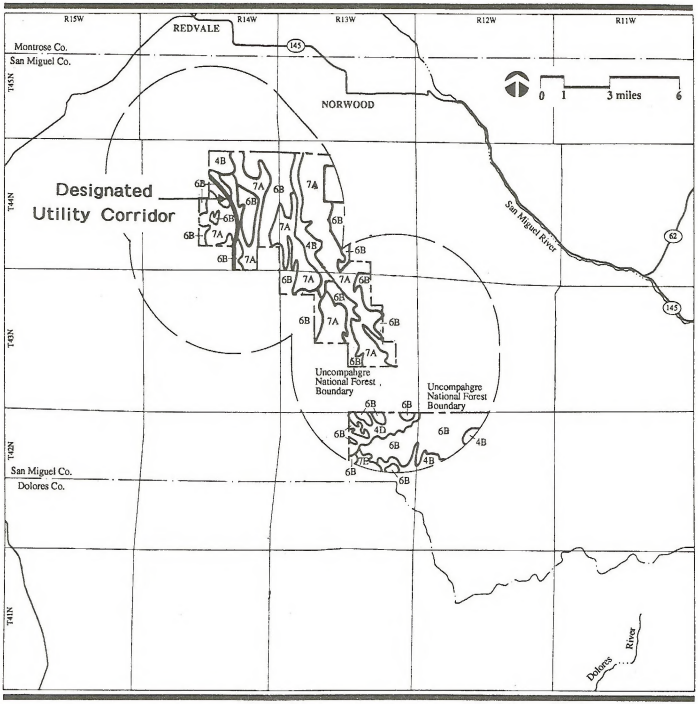
04 All location placement of utility facilities in corridors shall consider the following:

a. The most efficient use of the total space available for all potential facilities in the general corridor, particularly in constrained terrain where the minimum separation space will be used.

b. Throughout the corridor, facilities should be as consolidated as possible to allow for additional facilities and to minimize disturbance while still meeting visual management objectives.

c. Exclusive use of ROWs should not be granted. Compatible facilities may be located in a shared ROW, particularly in sections of the corridor that have constrained terrain.

Approval of this amendment is documented in the Record of Decision for the TransColorado Gas Transmission Project final EIS. Analysis for the amendment is documented in Appendix A of the TransColorado final EIS.



UTILITY CORRIDOR DESIGNATED FOR BURIED UTILITIES

Uncompahgre National Forest

EXHIBIT I

ATTACHMENT C

LAND AND RESOURCE MANAGEMENT PLAN
SAN JUAN NATIONAL FOREST

AMENDMENT NUMBER 17

DECEMBER, 1992

Reason for this Amendment

This amendment is necessary to reflect the approval of the TransColorado Natural Gas Transmission line route on the San Juan National Forest. A portion of the route is not in a designated utility corridor for major pipelines as required to be consistent with the Forest Land and Resource Management Plan. This amendment designates the non-designated portion of the route on the San Juan National Forest as a management prescription 1D utility corridor for buried utilities (including pipelines) and adds additional forest direction for utility corridors to management prescription 1D.

The attached map (Exhibit I) shows the designated general location of the utility corridor. The buried utilities (including pipelines) corridor generally follows an existing 345 kV powerline corridor. The location of the corridor has been reviewed on-the-ground and is documented in the detailed TransColorado project survey maps which are on file.

Add additional forest direction for management prescription 1D to the Forest Plan. Insert in Chapter III, page III-103 at the end of general direction for "Rights-Of-Way and Land Adjustments" additional general direction requirements which read as follows:

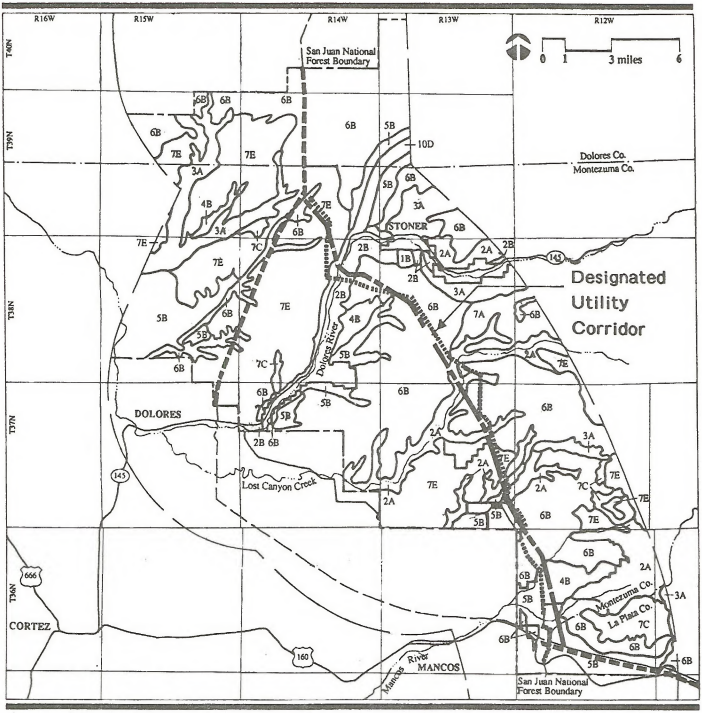
04 All location placement of utility facilities in corridors shall consider the following:

a. The most efficient use of the total space available for all potential facilities in the general corridor, particularly in constrained terrain where the minimum separation space will be used.

b. Throughout the corridor, facilities should be as consolidated as possible to allow for additional facilities and to minimize disturbance while still meeting visual management objectives.

c. Exclusive use of ROWs should not be granted. Compatible facilities may be located in a shared ROW, particularly in sections of the corridor that have constrained terrain.

Approval of this amendment is documented in the Record of Decision for the TransColorado Gas Transmission Project final EIS. Analysis for the amendment is documented in Appendix A of the TransColorado final EIS.



Requiring New Corridor Designation

Utility Corridor for 345 KV Transmission Line Only (Management Area 1D)

Designated Utility Corridor (Management Area 1D)

7E Forest Plan Management Area

UTILITY CORRIDOR DESIGNATED FOR BURIED UTILITIES

San Juan National Forest

EXHIBIT I

ATTACHMENT D/FOREST SERVICE RECORD OF DECISION

TABLE 2-12

TransColorado Gas Transmission Project
Environmental Protection Measures
for Federal Lands

The measures listed in this table will be attached as written to the BLM and USFS ROW grant. These measures are required unless waived by the Federal authorized officer or Federal project inspector and, where applicable, the Federal line manager. Prior to issuing a waiver, the affected land management agency will conduct an environmental review to determine if additional analysis is needed.

AIR QUALITY

1. Federal, state, and local air quality emission standards and regulations will be met.

2. Water, or other means, to control dust will be provided in accordance with Federal, local, or state requirements.

3. Construction and operation equipment will be properly maintained to reduce emissions.

4. Dust abatement procedures shall be used at all times when working within 500 feet of the power transmission line ROW, unless waived by the owner/operator of the power line.

5. Compressor stations will be designed to limit noise levels to 50 dBA at all occupied residences between 7:00 p.m. and 7:00 a.m., and 55 dBA during the day.

TOPOGRAPHY

1. In areas of unstable slopes, active faults, and locations of mines, proper mitigation will be developed (e.g., alternate locations, stronger pipe, installation of monitoring equipment, installation of block valves to isolate area, use of low-density backfill to allow for pipe movement, subsurface drainage, and buttressing) from geotechnical investigations completed during engineering of the pipeline.

2. Site-specific geotechnical evaluations of compressor sites will be conducted prior to construction to determine foundation requirements.

3. Fault crossings will be assessed and site-specific mitigation measures will be developed (i.e., thicker pipe walls, shut-off valves, and low-density backfill) to maintain safety of pipeline.

MINERALS

1. To ensure that the owner of coal lease C-029889 does not lose the potential to mine the coal under the pipeline, a condition will be attached to the ROW grant. Basically, if the mine plan is required to be modified to provide subsidence protection for the pipeline, the ROW holder will be required to make changes in the location, operation, or design of the pipeline such that the mine plan can proceed without modification. This condition will be spelled out in greater detail in the ROW grant.

TABLE 2-12 (Continued)

SURFACE WATER QUALITY

General Construction

1. Sediment filter devices will be installed, inspected, and repaired to minimize sedimentation where needed or required.

2. Proper riprap application or other techniques will be used to stabilize stream banks where needed or required.

3. Proper water management techniques will be used to prevent silt from entering water channels.

4. Natural drainage will be protected and restored to original contour and patterns to reclaim site.

5. Drainage structures will be installed as necessary to maintain natural surface drainage.

6. Sediment filter devices will be maintained at base of slopes located adjacent to streams until ROW revegetation is complete.

7. The pipeline will be located at least 50 feet from springs unless waived by the affected line manager and the authorized officer.

8. Exact locations of water wells will be determined prior to construction and the pipeline rerouted to maintain a minimum of 50 feet of clearance from the well.

9. Should a water supply well or spring be adversely affected during construction, an emergency source of potable water will be provided until TransColorado has restored the system. Such repairs will be made immediately following construction in that immediate area.

10. In narrow and deep channels with a flat bottom and little likelihood of further incision, 4-foot depth of pipe burial will be extended laterally from the channel center line a total distance of 3 times the channel depth. The side walls of the cut in the channel bank will be laid back at an angle of 1.5:1 (horizontal:vertical).

11. In deeply incised channels (V-notched cross-section) pipe will be buried 6 feet below channel bed; depth of burial will be extended laterally from the channel center line a total distance of 3 times existing channel depth. The side walls of the cut in the channel bank will be laid back to a slope of 1.5:1.

12. To protect groundwater from accidental fuel spills and contamination, no vehicles will be fueled within a 200-foot radius of all private wells and a 400-foot radius of all municipal water wells.

13. USFWS, the State Fish and Game Departments, and EPA will be consulted regarding withdrawal and disposal of hydrostatic test water.

14. No dredged or fill material will be discharged in the proximity of a public water supply intake (municipal watersheds).

TABLE 2-12 (Continued)

15. A spill prevention and countermeasure plan will be included in the construction contract specifications.

Stream Crossings

1. Staging areas will be located at least 100 feet from stream bank on BLM and on USFS lands to maintain buffer zone and avoid water pollution unless waived by the affected line manager and the authorized officer due to topographic restrictions.

2. No storage of fuels or petroleum products will be allowed within 100 feet of any stream bank to avoid water pollution.

3. Perennial stream crossings will be constructed during the low water period or as approved by the authorized officer.

4. State-issued stream crossing permits will be obtained, if required.

5. Section 401 water quality certification waiver will be obtained if required.

6. Stream crossing will be constructed perpendicular to the channel as engineering and routing conditions permit to minimize length of disturbance.

7. Stream banks will be backfilled as close as possible to original contour, using gravel or riprap, if necessary.

8. Construction equipment in flowing streams will be limited to that needed to construct the stream crossing. Other construction equipment will cross streams on culverts or portable bridges to reduce sedimentation and bank degradation.

9. Minor perennial stream crossings (streams less than 10 feet wide) will be completed within 24 hours, if possible.

10. Major stream crossings (streams more than 10 feet but less than 100 feet wide) will be completed within 72 hours, if possible.

11. Site-specific construction plans will be submitted to applicable federal agencies for crossing all rivers wider than 100 feet.

12. Authorities responsible for potable water supplies located within 3 miles downstream will be notified at least 72 hours prior to instream work.

13. State authorities will be notified at least 48 hours prior to commencement of instream trenching or blasting in major stream crossings.

14. Trench breakers, to prevent groundwater migration, will be installed at the pipeline trench entrance and exit of all encountered wetlands and shallow aquifers, including those associated with streams and rivers.

TABLE 2-12 (Continued)

15. Low-water crossings will be constructed so as not to block or restrict the existing channel.

16. Low-water crossings will be rehabilitated using material removed during construction to avoid new borrow areas.

17. Flow of spoil off ROW will be prevented to minimize downstream sedimentation.

18. Stream flow will be maintained to protect fisheries and aquatic habitat during construction of stream crossings.

19. The ROW will be aligned to avoid individual trees, snags, or groups of trees, which are significantly taller than the surrounding trees or which are located in an otherwise treeless area. In riparian zones where the riparian woodland consists of scattered old cottonwoods with an understory of seedling or sapling cottonwoods, the ROW will be aligned to remove the smallest possible number of old cottonwoods, with avoidance being preferable.

20. Irrigation ditches and canals will be periodically monitored for two seasons after construction to ensure the integrity of the ditch and canal banks.

21. All permanently lined irrigation ditches and canals will be bored unless waived by the authorized officer and irrigation company.

22. Mudboards will be installed to provide a working surface for equipment on unstable areas as determined by the authorized officer.

23. On streams less than 10 feet wide and considered an important fishery, the dry ditch method of construction will be used using flume pipe.

24. Rock waterways may be constructed for bank stabilization where high seasonal flows are expected. Only one cubic yard of material per running foot will be placed below the ordinary high water mark. This activity would require approval by the Corps under a Nationwide permit, a regional bank stabilization permit, or an individual permit.

25. Major stream crossings will be by the open-cut trench method utilizing tracked backhoes.

26. Abandoned water diversions will be plugged and filled to prevent trapping fish.

27. Streambed sediment at the Dolores and San Miguel River crossings in Colorado will be tested for mine waste sediment contamination. If contaminants are found, a site-specific mitigation plan to reduce or prevent re-suspension of contaminated sediments will be prepared and submitted to the authorized officer. Excavated sediments that are found to be contaminated will be disposed off-site in accordance with all local, state, and Federal regulations.

28. Streambed sediment at the La Plata and Animas River crossings in New Mexico will be tested for polycyclic aromatic hydrocarbons (PAH). Sampling and analytical testing methods will be reviewed and approved by the USFWS New Mexico Field Office and COE prior to implementing the sampling program. If contaminants are found, TransColorado will initiate discussions with the USFWS to develop site-specific protection measures.

TABLE 2-12 (Continued)

29. The pipeline will be buried below the maximum estimated scour depth of a 100-year flood at all stream crossings.

30. Pipeline protection measures will be taken where erosional processes over time reduce pipeline flood protection.

31. All aboveground facilities will be located outside of 100-year floodplains.

32. Major storage yards used during construction will be located outside of 100-year floodplains.

Water Use

1. Water withdrawal permits will be obtained for hydrostatic testing and dust control to protect water rights.

2. Proper intake procedures will be used to prevent entrainment of fish and maintain flow rates in source streams.

3. Discharge permits (e.g., local, state, NPDES) will be obtained for hydrostatic test water disposal.

4. Hydrostatic test water will be sampled during discharge and treated, if necessary, in accordance with permit to avoid pollution. Hydrostatic testing water in New Mexico will be tested for volatile compounds and metallic particles. Testing and treatment methods will be reviewed by the USFWS New Mexico Field Office prior to the return of any testing water to the rivers in New Mexico.

5. Dispersion devices or containment structures will be used when discharging test water to avoid erosion.

6. No more than 5 percent of current stream flow will be withdrawn from any source.

7. Hydrostatic test water will not be discharged into HQ1 or HQ2 streams.

WETLANDS

1. Wetland areas will be avoided to maximum extent possible

2. Staging areas will be located at least 100 feet from wetland edge 100 feet on BLM and USFS lands to maintain buffer zone and avoid water pollution unless waived by the affected land manager and the authorized officer due to topographic restrictions.

3. Petroleum products will not be stored within 100 feet of wetlands to avoid water pollution.

4. Construction of above ground facilities will not be permitted in Federally delineated wetlands and all areas located in 100-year floodplains.

TABLE 2-12 (Continued)

5. Sediment filter devices will be installed to prevent spoil drift and sedimentation where needed and required.

6. State-issued wetland crossing permit will be obtained, if required.

7. Construction ROW in wetland crossings will be less than 75 feet wide to minimize disturbance.

8. Proper clearing techniques will be utilized, leaving roots in place to maintain stability of soils.

9. Wide-track or balloon-tire construction equipment (or proper equipment pads) will be utilized to minimize disturbance.

10. No fertilizer or lime will be used in reclamation activities to prevent eutrophication of wetlands.

11. Soil, rock, tree stumps, or brush riprap will not be used to stabilize ROW to avoid altering the substrate.

12. Sediment filter devices will be installed and maintained at the base of all slopes adjacent to wetlands after construction.

13. Trees and/or native woody vegetation will be replanted in disturbed riparian areas to minimize visual intrusions.

14. Native herbaceous and woody plant species will be monitored to ensure they permanently revegetate.

15. Proper construction techniques will be used to prevent silt from flowing into wetlands.

16. ROW will be aligned to avoid beaver ponds or artificial ponds.

17. Agreements with livestock permittees will be developed to provide short-term protection of stream banks from livestock.

18. Construction across narrow wetlands (<200 feet) will consist of using a work pad (mud board) for the equipment, and the pipe will be placed as though it were on dry ground.

19. Construction across wide wetlands (>200 feet) will consist of laying pre-fabricated sections of the pipe into the trench, utilizing flotation devices.

20. All disturbed wetlands will be restored to original contours. Disturbed areas will be limited to the minimum necessary to construct the pipeline. In jurisdictional wetlands, the top 6 to 12 inches of the trench will be backfilled with topsoil from the trench, and any exposed slopes and streambanks will be stabilized immediately upon completion of the utility line.

TABLE 2-12 (Continued)

SOILS

1. Topsoils will be stripped from disturbed areas to a depth of 12 inches or to a depth specified by the land managing agency. The land managing agency may also specify the width of topsoil to be stripped, but the minimum width should encompass the area over the trench and under the subsoil spoil pile.

2. On saline soils (shale badlands) the top 6 inches of soil over the area to be excavated will be stripped, windrowed, and replaced after construction to encourage revegetation by native seeds present in the topsoil.

3. Steep slopes will be graded properly to minimize erosion.

4. Cuts and fills will be minimized to reduce the amount of exposed soils.

5. Proper blasting techniques will be used to aid in safety and minimize disturbance.

6. Proper trenching techniques will be used to minimize disturbance.

7. Construction restrictions during wet weather (temporary shutdown) will be followed to avoid road and site disturbance (ruts 4 inches or greater).

8. Cut and fill will not be used unless side slopes exceed 3 percent to minimize soil exposure and erosion.

9. Proper backfilling with compaction and contouring will be done to aid in site reclamation.

10. Backfill will be mounded over trench approximately 0.5 foot to account for subsidence unless otherwise requested by the authorized officer.

11. Topsoil replacement will be performed over entire disturbed area, sufficient for refilling and mounding.

12. Either temporary or permanent erosion control measures shall be initiated within 10 days after the trench is backfilled to aid in site stabilization.

13. Water bars shall drain away from disturbed area and begin and end in vegetation or rock.

14. Excess or unsuitable materials will be disposed of at approved locations.

15. Permanent water bars will be constructed on all slopes to help control runoff. Spacing will be as follows or as directed by the affected line manager or authorized officer.

TABLE 2-12 (Continued)

Slope (%)	Spacing
0 to 2	120 feet
2 to 5	100 feet
5 to 10	75 feet
10 to 20	50 feet
20 +	30 feet

16. Sediment barriers will be installed and maintained at the base of slopes located adjacent to road crossings until ROW revegetation is complete, or as directed by the authorized officer.

17. Noxious weed-free sediment barriers will be installed at stream, river, and wetland crossings to minimize sedimentation.

18. Trench breakers will be constructed on all slopes that drain into perennial streams or wetlands or onto improved roads to prevent the channeling of runoff or the migration of water along the trench. The trench breakers should be constructed at the same spacing as permanent water bars. Trench breakers should also be constructed immediately downslope of any location where groundwater could enter and migrate along the trench at any time of year.

19. Topsoil will not be used for the construction of trench breakers.

20. Snow will not be mixed with fill or topsoil during construction to avoid soil losses.

21. Compacted soils in agricultural areas will be relieved so that bulk density of soils on ROW approximates that of soils on adjacent undisturbed agricultural areas to maintain soil productivity.

22. Compacted soil conditions will be relieved before topsoil is replaced.

23. Topsoil will not be redistributed if the ground or topsoil is frozen.

24. Rocks on ROW will be removed to approximate pre-construction conditions.

25. Any blasting near the power transmission line ROW shall include blasting mats or berms so that flyrock or debris will not damage the transmission facilities. Utilities shall be notified prior to all blasting in the ROW.

SOLID WASTE

1. Construction sites will be maintained in a sanitary condition.

2. Waste will be disposed of at an authorized disposal site.

3. A litter policing program will be implemented to avoid litter and visual impacts.

TABLE 2-12 (Continued)

VEGETATION

1. Appropriate clearing techniques will be utilized to preserve roots, stockpile or dispose of vegetation wastes to maintain stability of site, and provide erosion control.

2. Construction and reclamation bond will be provided to ensure reclamation.

3. Non-linear ROW techniques (feathering) will be used to minimize visual impacts in areas as determined by the authorized officer.

4. Native species will be incorporated as practical in the reseeding mixture.

5. The SCS or the affected land management agency will be included in reclamation planning for site-specific information (e.g., noxious weed control, temporary erosion control, and the optimal time for seeding.

6. Seedbed preparation will be conducted to 3- to 4-inch depth to enhance revegetation (scarifying, tilling, harrowing).

7. Seeding will be conducted during the normal seeding season with proper seed mixture and techniques (certified seeds, proper seeding, and amount). TransColorado will meet with each field office to develop site-specific seeding plans prior to commencing construction. The specific seed mixtures will be included in the plan of development.

8. Approved mulch application will be used in sensitive areas (dry, sandy, steep slopes) to control erosion, as directed by the affected line manager or authorized officer.

9. Where wood chips are used as mulch, topdress will be with nitrogen at rates specified by the authorized officer.

10. Thatching or fiber blankets will be used on stream banks and areas of high erosion potential to control erosion, if needed.

11. Special land preparation will be accomplished on "critical areas" to control erosion and enhance revegetation.

12. Continuing revegetation efforts will be provided to ensure adequate cover until vegetation is established.

13. Procedures for application of herbicides, pesticides, and fertilizers will be identified where needed.

14. Cleared vegetation will be disposed of as directed by the authorized officer.

15. Seed will be used within 12 months of testing to assure seed viability.

16. Seed will be drilled, where feasible, to enhance germination.

TABLE 2-12 (Continued)

17. If broadcast or hydroseeding methods are used, seeding rates will be double the recommended seeding rates.

18. Inspection will occur after first and second growing seasons to determine need for further restoration.

19. Revegetation success will be monitored for the life of the project. Problem areas will receive additional revegetation efforts.

20. Noxious weed control measures will be implemented on the ROW for at least 5 years after construction.

21. Mulch, when used, will be anchored immediately after placing to minimize loss by wind and water.

22. Construction vehicles must arrive at the site in a clean and weed free condition.

23. Fertilizer will be used to enhance vegetation where recommended.

FORESTRY

1. Merchantable timber will be purchased by TransColorado.

2. Unmerchantable timber may be hauled off site or scattered on the ROW, as directed by the authorized officer.

3. If timber is scattered, it shall be done after seeding.

4. Unmerchantable timber may be left on the ROW as a barrier to vehicular traffic and to impede erosion.

5. Trees 3 inches in diameter or larger at ground level within the ROW will be cut and not pushed over except in the actual trench where stumps will be pulled during trenching.

6. Trees hung up during felling will be put on the ground immediately as a safety measure.

LIVESTOCK GRAZING

1. Grazing deferment plans may be developed with landowners and grazing permittees to minimize grazing disturbance until ROW revegetation is complete.

2. All damaged livestock facilities (fences, water sources) will be repaired to landowner's satisfaction. Temporary fences will be installed when necessary, to prevent livestock movement across fences temporarily removed for construction.

3. Compensation or temporary measures will be provided for any critical facilities (such as watering sites) that are disrupted during the construction and restoration process.

TABLE 2-12 (Continued)

4. Fences or other suitable barriers will be built to replace natural livestock barriers that would be altered or removed by pipeline construction.

WILDLIFE

1. Seasonal closures will be observed for elk, deer, antelope, sage grouse, heron, and other specified species unless waived by the authorized officer.

2. All non-essential access roads would be closed along the operational ROW to minimize disturbance impacts to wildlife.

3. A nesting raptor survey will be conducted prior to construction.

THREATENED OR ENDANGERED SPECIES

1. Construction will be restricted in key bald eagle wintering areas between November 15 and April 15, unless waived or modified by the authorized officer.

2. Construction near active (listed proposed and candidate species) raptor nests will be restricted between February 1 and August 15 (distance restrictions and dates vary with raptor species) unless waived or modified by the authorized officer.

3. Site-specific mitigation plans will be developed with the U.S. Fish and Wildlife Service for any impacted threatened or endangered species. Twenty individuals of Uinta Basin Hookless Cactus that are removed by construction will be transplanted to suitable habitat in the immediate area. Any depletions of water from occupied habitat for listed fishes would be mitigated by paying a one time fee for every acre foot of depletion in accordance with current USFWS guidelines.

4. The construction ROW will be aligned to avoid identified bald eagle winter roost trees.

5. Pipeline maintenance will be scheduled to avoid crucial bald eagle and raptor use periods.

6. Emergency maintenance in crucial bald eagle or raptor areas will require notification of the applicable land management agency, the USFWS, and the CDOW or the New Mexico Game and Fish Department.

7. Stream and river crossings in any occupied threatened and endangered fish habitat would be completed when the streams are at base flow levels. The preferred dates for crossing the Colorado, Gunnison, La Plata, and Animas Rivers are between September 1 and October 15.

8. A study will be designed and completed to document the impact of construction of pipeline crossings on water quality and fish in the Animas and La Plata Rivers. Studies will be coordinated with the USFWS in Albuquerque. The first step in the studies will be to test sediments at the crossing locations for PAH.

TABLE 2-12 (Continued)

WILD HORSES

1. During construction, cuts will be made in open trenches (at BLM specified intervals) in the Spring Creek Basin horse range to allow horses to cross the open trench.

CULTURAL RESOURCES

1. TransColorado shall comply with the treatment plan developed and approved by BLM, USFS, SHPO, FERC, and the Advisory Council on Historic Preservation.

2. A cultural resource awareness program will be developed and conducted by TransColorado prior to construction to minimize impacts to archaeological sites.

PALEONTOLOGY

1. Two sensitive paleontological sites found during an inventory of the Wasatch Formation will be monitored during construction.

VISUAL RESOURCES

1. In all disturbed areas provide successful regeneration of plant cover including indigenous species.

2. The ROW construction clearing will be limited to a 50-foot width (subject to slope stability engineering design needs) in the following areas. The spoil will be either used as a temporary roadbed or stockpiled in nearby less sensitive areas (e.g., unseen) and subsequently hauled back to the site where it was originally removed.

   Proposed Action and Agency Preferred Alternative Route - Grand Mesa - MP 74.0 to MP 75.7

   Grand Valley Variation - steep basin above Deer Creek River to Big Salt Wash MP 22.2 to MP 24.0

   Mancos Valley West Variation - southside, Dolores River Crossing MP 1.7 to MP 1.8
   (same location for San Juan Valley Variation)

   San Juan Valley Variation - crossing Glade Road north of Farmington MP 80.3 to MP 80.9

3. Existing parallel roads or utility corridors will be used as part of the disturbed zone for access or stockpiling.

4. ROW construction clearing will be extended beyond the standard 75-foot width to create a more natural effect on the final EIS agency preferred route from above Dolores to Mancos Hill.

5. Road cuts will be kept at an angle at or near road crossings shown in Appendix G where the ROW is in long view of the road.

TABLE 2-12 (Continued)

6. The boundary of the ROW will be feathered to minimize straight, non-natural lines, especially in forested areas as directed by the authorized officer.

7. Conifers of sufficient height and density to screen views of ROW will be planted in locations shown in Appendix G or as directed by the authorized officer.

8. The pipeline will be consolidated into a common corridor with existing, nearby utilities when the utilities would be visible in separate corridors (Appendix G).

9. Pipeline will be re-routed to a less topographically prominent position where a significantly less visible alignment exists nearby (Appendix G).

10. Visual intrusions of compression and metering facilities will be mitigated as specified by the authorized officer. Some specific measures include:

    - limit disturbance to minimum area necessary;
    - perform careful, detailed siting and design of facilities to minimize visual contrast, and take advantage of topographic or vegetative screening; and
    - select materials and colors to blend with the surroundings.

11. Aboveground facilities will be painted to blend with natural surroundings (where not precluded by safety regulations) to minimize visual intrusion.

12. Views down the ROW will be minimized by breaking long, straight lines of pipe with ROW angles.

13. Native vegetation will be planted at road, trail, and key visual viewpoints to break view of ROW and blend with natural landscape.

RECREATION

1. Temporary access will be made available for any major campgrounds or trails blocked by construction.

TRANSPORTATION

1. Boring techniques will be used under major or busy roadways to avoid disrupting traffic.

2. During temporary shut-down, ROW shall be blocked to avoid unauthorized entry.

3. Adequate safety precautions and traffic control (detours, flagmen) will be provided for traffic safety in accordance with Federal, state, or county requirements.

4. Any disturbed local roadways will be repaired or replaced to maintain transportation network.

TABLE 2-12 (Continued)

5. All public and private roadway crossings and access points will be restored to safe and acceptable conditions.

6. Minor road crossings will be completed in 24 hours or less to minimize traffic disruption.

7. Access to existing Western Area Power Administration utility lines will not be blocked.

8. Construction activities on Western Area Power Administration's transmission access system shall allow heavy equipment to use the road at least to a standard of H-20 loading. This shall be achieved without increasing the elevation of the road surface in such a manner that would cause high centering of maintenance vehicles.

9. TransColorado will participate in the maintenance of roads used to access the ROW and ancillary facilities in conjunction with other facilities.

10. On USFS roads, no rutting will be allowed on gravel surfaced roads, and up to 2-inch-deep ruts will be allowed on non-surfaced roads.

LAND USE, ZONING, AND LOCAL COMMUNITIES

1. TransColorado shall abide by the valid existing rights of all permittees, licensees, ROW holders, leases, mining claimants, and any other holders of valid authorizations on BLM and USFS lands.

2. Pre-construction meetings will be conducted with the BLM, USFS, and FERC prior to beginning construction.

3. All necessary Federal, state, and local permits will be obtained.

4. The boundaries of the 75-foot construction ROW will be flagged prior to construction.

5. All existing improvements, such as fences, gates, irrigation ditches, and cattle guards, will be maintained and repaired to at least pre-construction condition to minimize disturbances to the public.

6. Measures will be provided to control use of ROW (natural barriers, gates, or tree planting) and prevent unauthorized travel for the life of the project.

PUBLIC HEALTH AND SAFETY

1. A fire prevention and suppression plan will be prepared and followed to avoid fire and maintain public safety.

2. Spark arrestors will be used during construction, operation, and maintenance to prevent fires.

3. Coordination with affected utilities will be done to avoid utility disruptions.

TABLE 2-12 (Continued)

4. Safety measures will be provided to protect workers and the public from electric shocks. Hazards associated with work activities in the vicinity of high-voltage electric power transmission lines will be identified and avoided.

5. An emergency response plan will be prepared and followed for leaks and spills (hazard areas, wetlands, stream crossings) to protect the public.

6. Pipeline construction will cease by sunset, night-time construction will not be permitted.

7. TransColorado will comply with all applicable Federal, state, and local laws and regulations concerning the use, storage, and control of designated hazardous materials.

8. TransColorado will comply with all applicable Federal, state, and local laws and regulations concerning the use, storage, and handling of explosive materials.

TABLE 2-13

TransColorado Gas Transmission Project
Site-Specific Environmental Protection Measures

This table lists BLM and USFS site-specific environmental protection measures that will be attached to the BLM and USFS ROW grant in addition to those listed in Table 2-12. These measures are based upon decisions in BLM and USFS land use plans. As dictated by these plans and agency policies, exceptions to the listed stipulations are permitted by waivers or modifications and must be in writing and signed by both the affected land manager and the authorized officer for the project. The Federal agency that administers the Federal land would prepare site-specific environmental analysis documents prior to waiving any exceptions.

Stipulation	Exception
Paleontological Resources Stipulation	
Paleontological surveys shall be conducted within the 75-foot right-of-way where it intersects BLM/FS Class I paleontological areas. The surveys shall be conducted by a qualified paleontologist prior to pipeline construction. Any significant fossils found during the surveys will be avoided or excavated as instructed by the applicable BLM/USFS office.	
Soils and Water Stipulations	
Surface-disturbing activities shall be prohibited within 100 feet of perennial streams in the Grand Junction Resource Area (Grand Junction Resource Management Plan).	Does not apply to essential utility crossings
Surface disturbance shall be limited in the Palisade watershed and interference with the Palisade watershed shall be avoided (Grand Junction Resource Management Plan). Blading will be limited to that needed for excavation of the pipeline trench and must not exceed 35 feet in width. No blading will be allowed in the remaining 15 feet of the graded ROW.	May be waived or modified during siting of the pipeline if doing so would not result in unacceptable impacts to the watershed.
Surface occupancy shall be prohibited on slopes greater than 40 percent. Other surface-disturbing activities shall be allowed only after analyzing site-specific conditions and potential for safety hazards and reclamation (Grand Junction Resource Management Plan).	Waivers or modifications permitted if TransColorado agrees to the following measures to protect soils, water, and vegetation resources on these steep slopes. Additional measures may be added as needed during siting of the pipeline: a. Prior to any grading and trenching in these areas, a temporary retaining barrier consisting of a woven mesh-type material will be installed at the edge of the defined ROW to hold the spoil material on the slope. Grading and trenching will be accomplished using smaller earth-moving equipment and backhoes. Trench breakers will be used to minimize soil erosion.

TABLE 2-13 (Continued)

Stipulation	Exception
	b. After the ROW has been restored to a condition acceptable to BLM, waterbars will be constructed to: (1) ensure that soil erosion is minimized; (2) simulate the imaginary contour lines of the slope (ideally with a grade of 1 to 2 percent); (3) drain away from the disturbed area; and (4) begin and end in vegetation or rock where possible. A closer spacing of waterbars may be required on steep slopes to reduce channelization. Waterbars will be installed according to the following table: Slope (%) — Spacing Interval (feet) 0-2 — 120 2-5 — 100 5-10 — 75 10-20 — 50 >20 — 30
	c. When appropriate, slash will also be used to control erosion. Silt and runoff retention basins may be constructed along the ROW to reduce erosion. The BLM will approve site locations and develop minimum standards for the basins.
	d. Areas disturbed either indirectly by passage of construction equipment or directly by trenching and backfilling will be seeded with a BLM approved mixture. Seeding will be done during the months of September through November. If seeding is not accomplished until the following year, all annuals and undesirable vegetation (Russian thistle, Halogeton, etc.) will be eradicated prior to seeding. The seeds will be planted using a drill equipped with a depth regulator to ensure proper depth. Where drilling is not possible, seed will be broadcast and the area will be chained to cover the seed. When broadcasting the seed, the pounds of pure live seed/acre will be doubled.
	e. After the ROW has been restored and seeding has been completed, an approved matting will be installed to stabilize the soil. This matting will only be necessary on very steep slopes selected by the BLM.
Surface-disturbing activities will be prohibited on highly erodible soils from March 1 to May 31 to minimize erosion and salt yields during periods of high soil moisture (Uncompahgre Basin Resource Management Plan).	May be waived or modified if soil conditions permit construction without creating ruts greater than 4 inches in depth.

TABLE 2-13 (Continued)

Stipulation	Exception
No long-term adverse impacts on public lands will be allowed to riparian/aquatic systems of Cottonwood and Roubideau Creeks (Uncompahgre Basin Resource Management Plan). Removal of all trees and shrubs in the riparian areas of Cottonwood and Roubideau Creeks shall be prohibited.	May be waived or modified if TransColorado can demonstrate that removal of trees and shrubs in the riparian areas would not result in long-term impacts to the riparian/aquatic systems of Cottonwood and Roubideau Creeks. In addition, any trees or shrubs approved for removal shall be replaced with willow clumps or cottonwoods from nursery stock or some source other than adjacent BLM land. Plants shall be protected from livestock and wildlife.
Wildlife Stipulations	
Disturbing activities shall be prohibited in key, (severe winter range, crucial range, winter concentration areas, fawning areas, calving areas, sage grouse leks, heron rookeries, raptor nests) ranges and nesting areas (Tables 2-15 and 2-16) during the times listed below. These dates are based on the most conservative agency recommendations for areas crossed by the TransColorado Project. Recommended dates vary between BLM Resource Areas, National Forests, and state wildlife agencies.	May be waived or modified if TransColorado can demonstrate that disturbing activities during seasonal closures could be conducted without causing unacceptable impacts to wintering animals, big game calving/fawning areas, nesting/breeding sagegrouse, nesting heron, and nesting raptors.
Key Winter Range Mule Deer 12/1-5/1 Elk 12/1-5/1 Antelope 12/1-5/1	
Fawning, Calving Areas - Mule Deer 5/15-7/1 Elk 5/1-7/1 Antelope 5/1-7/1	
Sage Grouse Nesting/Breeding Areas - No activity within 2 miles of an active sage grouse lek between 3/1-7/15	
Nesting Waterfowl Areas - 3/15-6/30	
Heron Rookeries - No activity within 0.5 miles between 3/15-7/31	
Ferruginous Hawk - no activity within 1 mile of the nest between 2/1-8/15	
Golden Eagle - no activity within 0.5 miles of the nest between 2/1-8/15	

TABLE 2-13 (Continued)

Stipulation	Exception
Other Raptor Nests - no activity within 0.5 miles of the nest between 2/1-8/15 (no stipulations cover the American kestrel), the dates and distances vary according to raptor species.	
Major utility corridors are excluded in key big game areas (see Tables 2-15 and 2-16) in the San Juan, San Miguel Resource Areas, to protect wintering big game habitat.	Exceptions may be authorized on a case-by-case basis depending on the site-specific impact of the proposal (San Juan/San Miguel Resource Management Plan). May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to wintering big game habitat. In addition, TransColorado must agree to re-establish sagebrush, fourwing saltbush, or other appropriate shrubs for winter forage.
Threatened and Endangered Species Stipulations	
Disturbing activities shall be prohibited in key habitats for threatened and endangered species during the following periods and within the following buffer zones. TransColorado shall not remove or damage any known bald eagle roost trees. In addition, TransColorado shall minimize the removal of all large trees and snags in bald eagle winter use areas. When selecting trees for removal, the following types of trees and snags should be avoided: 1) large conifers, or groups of conifers, which are significantly taller than the adjacent trees, particularly if the trees have open branch structure or dead tops; 2) snags, or groups of snags, which are significantly larger than the surrounding trees; 3) cottonwoods or snags that stand in open mostly treeless areas, such as Disappointment Valley; and 4) large cottonwoods in streamside areas that are significantly taller than surrounding cottonwoods. Recommended avoidance periods and buffer zones vary between BLM Resource Areas, National Forests, and state wildlife agencies. The following buffer zone recommendations are from USFWS bald eagle (USFWS 1982) and peregrine falcon (USFWS 1984) recovery plans and USFS (USFS 1991B) Region 3 Mexican Spotted Owl Guidelines. The following avoidance periods are based on the most liberal agency recommendations for key habitats crossed by the TransColorado project.	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to threatened or endangered species.

TABLE 2-13 (Continued)

Stipulation	Exception
Bald Eagle Nesting site - no activity within 0.5 miles of the nest between 11/15-7/31.	
Winter roost - no activity within 0.25 mile of the roost between 11/15-4/15.	
Winter concentration areas no activity within 0.25 mile of the winter concentration area between 12/1-4/15.	
Peregrine Falcon Nesting site - no activity within 1 mile of the nest between 3/15-7/31.	
Mexican Spotted Owl - Establish a 450 acre core area and a 2,000 acre territory around any Mexican spotted owl nest. Restrict activities within core area. If it is not legally possible to restrict activities, no activities will be permitted within the core area between 2/1-7/31. Disturb no more than 516 acres of the 2,000 acre territory.	
Cultural Resources	
TransColorado shall conduct a Class III cultural resources inventory within a 200-foot corridor along the approved pipeline route prior to the BLM and USFS making a decision. The inventory shall be conducted on public and private lands by a Federally-approved archaeologist in accordance with the Programmatic Agreement signed by the BLM, ACHP, USFS, SHPOs, and TransColorado. Cultural resources will be evaluated and then treated according to an approved treatment plan.	
Travel Restrictions:	
Areas listed on Table 2-17 are closed yearlong to off-road or off-trail motorized vehicle travel to prevent erosion and area use conflicts (San Juan National Forest Land and Resource Management Plan).	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts. This stipulation shall not be waived for scheduled maintenance.
Areas listed on Table 2-17 are closed to motorized vehicles from December 1 to March 31 yearly to protect wildlife winter range (San Juan National Forest Land and Resource Management Plan).	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to wildlife winter range. This stipulation shall not be waived for scheduled maintenance.

TABLE 2-13 (Continued)

Stipulation	Exception
Roads listed on Table 2-17 are closed to motorized vehicles from November 1 to June 30 yearly to prevent road damage (Grand Mesa, Uncompahgre, and Gunnison National Forests Land and Resource Management Plan).	May be waived or modified if TransColorado can demonstrate that pipeline construction could be conducted without causing unacceptable impacts to roads. This stipulation shall not be waived for scheduled maintenance.

ATTACHMENT E

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
Colorado State Office
730 Simms Street, Suite 290
Golden, CO 80401

Phone: (303) 231-5280 FAX (303) 231-5285

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
FWE/CO:BLM-TransColorado Pipeline
MS 65412 GJ

NOV 30 1992

Memorandum

To: District Manager, Bureau of Land Management, Montrose District Office, 2465 South Townsend Ave., Montrose, CO

From: State Supervisor, Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Golden, CO

Subject: Final Biological Opinion, TransColorado Gas Transmission Pipeline, Response to Final Biological Assessment No. 6777-001-540

This opinion addresses endangered fishes, the Uinta Basin hookless cactus, and Ute ladies'-tresses. Based upon existing information, we concur with the finding of "no affect" for the other listed species considered in the final biological assessment for the TransColorado Gas Transmission Pipeline.

Details of conservation measures and conservation recommendations have been changed from the draft biological opinion. Therefore, TransColorado Gas Transmission Company (TransColorado) has not had a chance to review a draft biological opinion with all the details and has not had opportunity to provide a letter of concurrence saying that they will abide by the conservation measures and conservation recommendations. However, the BLM informed the Service on October 14, 1992 that TransColorado must abide by the conservation measures and conservation recommendations in order to receive their permit for construction. Therefore, TransColorado will provide the Service with a letter of concurrence after issuance of the final biological opinion. The letter should be received by the Service within 30 days of receipt of the biological opinion by TransColorado.

Enclosures

pc: CDOW, Grand Junction
CDOW, Montrose
COE, Grand Junction
FWS/FWE, Grand Junction
FWS/FWE, Salt Lake City
FWS/Ecological Services, Albuquerque, NM

Colorado Gas Transmission Pipeline
Biological Opinion

FWS/GJ-6-CO-92-F-010

Subject: Final Biological Opinion, TransColorado Gas Transmission Pipeline, Response to Final Biological Assessment No. 6777-001-540

In accordance with Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) and the Interagency Cooperation regulations (50 CFR 402), this transmits the Fish and Wildlife Service's (Service) biological opinion for impacts to federally listed endangered species. This opinion is provided to you as the lead Federal agency regarding Section 7 consultation on this project. Copies of this opinion are being provided to the above referenced applicant since the Service has incorporated conservation measures and conservation recommendations that should be included as conditions of any permits issued by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) for this project.

The Service concurs that the annual depletion of water from the Colorado River "may affect" the endangered Colorado squawfish (Ptychocheilus lucius), humpback chub (Gila cypha), bonytail chub (Gila elegans), and razorback sucker (Xyrauchen texanus). The Service also concurs that removal of 88 Sclerocactus glaucus (Uinta Basin hookless cactus) "may affect" this species. The Service believes that if any Spiranthes diluvialis (Ute ladies'-tresses) are found in the right-of-way that pipeline construction "may affect" this plant species.

BIOLOGICAL OPINION

Based upon the best scientific and commercial information that is currently available, it is the Service's biological opinion that the construction of the proposed TransColorado Gas Transmission Pipeline, as described below, is not likely to jeopardize the continued existence of the Colorado squawfish, humpback chub, bonytail chub, and razorback sucker in the Upper Colorado River Basin provided that the conservation measures described in this document are implemented. In the San Juan River Basin the project is not likely to jeopardize the continued existence of the Colorado squawfish or razorback sucker. Conservation recommendations are proposed for the San Juan River fishes. The project is not likely to jeopardize the continued existence of the Uinta Basin hookless cactus or the Ute ladies'-tresses orchid. Conservation recommendations are proposed for these two plant species. In a letter dated 11/30/92, the TransColorado Pipeline Company agreed to implement the conservation measures that we believe are necessary to offset the likelihood of jeopardy to the fishes as well as conservation recommendations to offset impacts to the plant species. These conservation measures and conservation recommendations should be included as stipulations or conditions of the BLM and USFS permits.

PROJECT DESCRIPTION

TransColorado Gas Transmission Company proposes to construct, operate, and maintain a 22 and 24 inch diameter natural gas transmission pipeline system between the Piceance Basin, Rio Blanco County, Colorado and the Blanco Plant near Bloomfield, New Mexico. Interconnects with other gas pipelines would occur in the Bloomfield area. The preferred pipeline would be 290 miles in length, with about 3 miles of interconnecting pipeline. The project would disturb about 2,640 acres, which includes lands disturbed by pipeline construction, six new compressor stations, and six meter stations. Some of the acreage to be disturbed has been previously disturbed by other projects. No new roads would be constructed, but about 165 miles of existing roadways would be graded or improved.

Construction right-of-way (ROW) would be 75 feet in most areas, and the operational ROW would be 50 feet. In some areas, such as steep sideslopes the construction ROW would be wider, and in some cases, the construction ROW would be less than 75 feet to protect sensitive resources. The proposed pipeline parallels other pipelines or utilities for 180 miles, with a 25 to 50 foot offset from those other utilities, resulting in a shared ROW. Clearing of vegetation would be kept to the minimum necessary to allow adequate room for construction equipment.

Construction would require the use of an estimated 7.74 acre-feet of surface water, and 3.30 acre-feet of municipal water for dust abatement during construction. Dust abatement water would be withdrawn from most streams at the point of pipeline crossing (the Uncompahgre River would be an exception; water would be withdrawn upstream of the confluence with the Gunnison River and downstream of Delta). Construction would also require the temporary use of a total estimated 51.78 acre feet of surface water, withdrawn from streams, for hydrostatic testing of the pipeline. Of this 5.53 acre-feet would be temporarily removed from habitat occupied be endangered fishes, and transferred to another drainage, within the upper Colorado River basin. Hydrostatic test water would be withdrawn from streams and discharged into them at the points where the pipeline crosses the streams.

Listed Fishes: Upper Colorado River

BASIS FOR OPINION

This section of the biological opinion addresses the average annual depletion of approximately 12.89 acre-feet of water from the upper Colorado River.

Water depletions in the Upper Colorado River Basin have been recognized as a major source of impact to endangered fish species. Continued water withdrawal has restricted the ability of the Colorado River system to produce flow conditions required by various life stages of the fishes. Impoundments and diversions have reduced peak discharges by 50 percent since 1942 while increasing base flows by 21 percent in some reaches. These depletions along with a number of other factors have resulted in such drastic reductions in the populations of Colorado squawfish, humpback chub, bonytail chub and razorback

sucker that the Service has listed these species as endangered and has implemented programs to prevent them from becoming extinct.

Colorado Squawfish

The Colorado squawfish evolved as the main predator in the Colorado River system. The diet of Colorado squawfish longer than three or four inches consists almost entirely of other fishes (Vanicek and Kramer 1969). The Colorado squawfish is the largest cyprinid fish (minnow family) native to North America and, during pre-development times, may have grown as large as six feet in length and weighed nearly 100 pounds (Behnke and Benson 1983). These large fish may have been 25-50 years of age.

Based on early fish collection records, archaeological finds and other observations, the Colorado squawfish was once found throughout warm water reaches of the entire Colorado River Basin, including reaches of the upper Colorado River and its major tributaries, the Green River and its major tributaries, and the Gila River system in Arizona (Seethaler 1978). Colorado squawfish were apparently never found in colder, headwater areas. Seethaler (1978) indicates that the species was abundant in suitable habitat throughout the entire Colorado River basin prior to the 1850's. Historically, Colorado squawfish have been collected in the upper Colorado River as far upstream as Parachute Creek, Colorado (Kidd 1977).

A marked decline in Colorado squawfish populations can be closely correlated with the construction of dams and reservoirs during the 1960's, the introduction of nonnative fishes, and the removal of water from the Colorado River system. Behnke and Benson (1983) summarized the decline of the natural ecosystem. They pointed out that dams, impoundments, and water use practices are probably the major reasons for drastically modified natural river flows and channel characteristics in the Colorado River Basin. Dams on the mainstem have essentially segmented the river system, blocking Colorado squawfish spawning migrations and drastically changing river characteristics, especially flows and temperatures. In addition, major changes in species composition have occurred due to the introduction of nonnative fishes, many of which have thrived as a result of changes in the natural riverine system (i.e., flow and temperature regimes). The decline of endemic Colorado River fishes seems to be at least partially related to competition or other behavioral interactions with nonnative species, which have perhaps been exacerbated by alterations in the natural fluvial environment.

The Colorado squawfish currently occupies about 1,030 river miles in the Colorado River system (25 percent of its original range) and is presently found only in the upper Colorado River Basin above Glen Canyon Dam. It inhabits about 350 miles of the mainstem Green River from its mouth to the mouth of the Yampa River. Its range also extends 140 miles up the Yampa River and 104 miles up the White River, the two major tributaries of the Green River. In the mainstem Colorado River, it is currently found from Lake Powell extending about 201 miles upstream to Palisade, Colorado, and in the lower 33 miles of the Gunnison River, a tributary to the mainstem Colorado River (Tyus et al. 1982). Recent investigation found adult Colorado squawfish inhabit the San Juan River as far upstream as 163.3 miles above Lake Powell.

The life stages that appear to be most critical are from egg fertilization through its first year of life. It has been demonstrated that these phases of Colorado squawfish development are also closely tied to some specific habitat requirements. It is imperative that proper flows and temperatures are provided during these essential life stages. The conservation measures outlined below will help further investigate and meet the habitat requirements of the Colorado squawfish, thus offsetting project-related impacts and the likelihood of jeopardy for the species.

Humpback chub

Humpback chub generally do not make migrational movements in the upper Colorado River and tend to reside throughout the year within a limited reach of river. Humpback chub are found inhabiting narrow, deep canyon areas, and are relatively restricted in distribution. They seldom leave their canyon habitat (Service 1982). While humpback chub are regularly found dispersed in the Green and Yampa Rivers, the only major populations of humpback chub known to exist in the upper Colorado River basin are located in Black Rocks and Westwater Canyons on the Colorado River. Conservation measures outlined below will contribute to providing proper habitat conditions for humpback chub, thus offsetting the likelihood of jeopardy for the species.

Bonytail chub

Little is known about the biological requirements of the bonytail chub, as the species greatly declined in numbers in the upper basin shortly after 1960. Until recently, the Service considered the species extirpated from the upper basin; however, a recently collected specimen which exhibits many bonytail characteristics could indicate a small, extant population. It is thought that, should this species persist in the Colorado River, the preferred habitat would be larger river reaches in the Colorado River. Conservation measures outlined below will contribute to conservation efforts for the bonytail chub, thus offsetting the likelihood of jeopardy for the species.

Razorback sucker

The current distribution and abundance of razorback suckers have been significantly reduced throughout the Colorado River system (Holden and Stalnaker 1975, McAda and Wydoski 1980, Minckley 1983, McAda 1987, Tyus 1987, Marsh and Minckley 1989). Above Glen Canyon Dam, razorback suckers are found in limited numbers in both lentic and lotic environments. The largest population of razorback suckers in the upper Colorado River basin is found in the upper Green River and lower Yampa River (Tyus 1987). Lanigan and Tyus (1989) estimated that from 758 to 1,138 razorback suckers inhabit the upper Green River. In the Colorado River, most razorback suckers occur in the Grand Valley area near Grand Junction, Colorado; however, they are increasingly rare. Osmundson and Kaeding (1990) report that the number of razorback sucker captures in the Grand Junction area have declined dramatically since 1974.

Specific information on biological and physical habitat requirements of the razorback sucker is very limited. Habitat requirements of young and juvenile razorback suckers in the wild are largely unknown, particularly in native

riverine environments. Life stages, other than adults, have not been collected anywhere in the upper Colorado River basin in recent times. The last confirmed documentation of a razorback sucker juvenile in the upper Colorado River basin was a capture in the 1960's in the Colorado River near Moab, Utah (Taba et al. 1965, report in Bestgen 1990). The virtual absence of any recruitment suggests a combination of biological, physical, and/or chemical factors that may be affecting the survival and recruitment of early life stages of razorback suckers. Conservation measures outlined below will contribute to conservation efforts for the razorback sucker, thus offsetting the likelihood of jeopardy for the species.

CONSERVATION MEASURES

On January 21-22, 1988, the Secretary of the Interior, the governors of Wyoming, Colorado, and Utah, and the Administrator of the Western Area Power Administration were cosigners of a Cooperative Agreement to implement the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (Recovery Program). An objective of the Recovery Program was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the listed species while providing for new water development in the Upper Colorado River Basin.

The following excerpts are pertinent to the consultation because they summarize portions of the Recovery Program that address depletion impacts, Section 7 consultation, and project proponent responsibilities:

> "All future Section 7 consultations completed after approval and implementation of this program (establishment of the Implementation Committee, provision of congressional funding, and initiation of the elements) will result in a one-time contribution to be paid to the Service by water project proponents in the amount of $10.00 per acre-foot based on the average annual depletion of the project.... This figure will be adjusted annually for inflation.... Concurrently with the completion of the Federal action which initiated the consultation, e.g., ...issuance of a 404 permit, 10 percent of the total contribution will be provided. The balance...will be...due at the time the construction commences...."

It is important to note that these provisions of the Recovery Program were based on appropriate legal protection of the instream flow needs of the endangered Colorado River fishes. The Recovery Program further states:

> "...it is necessary to protect and manage sufficient habitat to support self-sustaining populations of these species. One way to accomplish this is to provide long term protection of the habitat by acquiring or appropriating water rights to ensure instream flows.... Since this program sets in place a mechanism and a commitment to assure that the instream

flows are protected under State law, the Service will consider these elements under Section 7 consultation as offsetting project depletion impacts."

Thus, the Service has determined that project depletion impacts, which the Service has consistently maintained are likely to jeopardize the listed fishes, can be offset by (a) the water project proponents one-time contribution to the Recovery Program in the amount of $11.98 per acre-foot of the project's average annual depletion, and (b) appropriate legal protection of instream flows pursuant to State law. The Service believes it is essential that protection of instream flows proceed expeditiously, before significant water depletions occur.

With respect to (a) above (i.e., depletion charge), the applicant will make a one-time payment which has been calculated by multiplying the project's average annual depletion (12.89 acre-feet) by the depletion charge in effect at the time payment is made. For fiscal year 1993 (October 1, 1992, to September 30, 1993), the depletion charge is $11.98 per acre-foot of the average annual depletion which equals a total payment of $154.42 for this project. This amount will be adjusted annually for inflation on October 1 of each year based on the previous year's Composite Consumer Price Index. The Service will notify the applicant of any change in the depletion charge by September 1 of each year. Ten percent of the total contribution ($15.44) or total payment, will be provided to the Service or its designated agent at the time of issuance of the Federal approvals from the BLM/USFS. The balance will be due at the time the construction commences. The payment will be included by the BLM/USFS as a permit stipulation. The amount payable will be adjusted annually for inflation on October 1 of each year based on the Composite Consumer Price Index. Fifty percent of the funds will be used for acquisition of water rights to meet the instream flow needs of the endangered fishes (unless otherwise recommended by the Implementation Committee); the balance will be used to support other recovery activities for the Colorado River endangered fishes. Payment should be made to the National Fish and Wildlife Foundation (see appendix A). In a letter dated November 30 , 1992 (Appendix B), TransColorado Gas Transmission Company agreed to this payment.

Listed Fishes: San Juan Basin

BASIS FOR OPINION

This section of the biological opinion addresses the average annual depletion of approximately 2.58 acre-feet of water from the San Juan River Basin. The potential affects of the water depletions proposed by the BLM have been analyzed in the context of ongoing consultations, commitments and agreements in the San Juan River Basin. Of primary concern is the quantity and quality of water provided to and through the habitat of the endangered Colorado squawfish and razorback sucker in the San Juan River, including the water provided by the major tributaries such as the Animas and La Plata Rivers. The amounts of water diverted and depleted from the waters of the San Juan River Basin through the construction of the pipeline is considered minor.

On October 24, 1991 a Memorandum of Understanding was executed by the Department of Interior, the States of Colorado, Utah, and New Mexico, the Ute Mountain Ute Indian Tribe, the Southern Ute Indian Tribe, and the Jicarilla Apache Indian Tribe to develop and implement a Recovery Implementation Program for the San Juan River Basin. A Cooperative Agreement to adopt the San Juan River Basin Recovery Implementation Program was signed by the Secretary of the Interior on October 28, 1992. The Program provides for small depletions up to a cumulative total of 3000 acre-feet. Because the depletion of 2.58 acre-feet from the San Juan River Basin for the pipeline is included in the 3000 acre-feet, the Service has determined it will not jeopardize the endangered fishes.

Actions which may impact the water quality of the San Juan River and its tributaries will take place in conjunction with the construction of the pipeline. Potential threats caused by impacts to water quality outweigh the potential impacts caused by removal of surface water from the river. The release of polycyclic aromatic hydrocarbons (PAHs) into the San Juan River via the disturbance of contaminated bottom sediments in its tributaries could adversely affect the Colorado squawfish and razorback sucker.

PAHs may reach aquatic environments by domestic and industrial sewage effluent, by surface runoff, by contaminated groundwater, by deposition of airborne particulates, and particularly by spillage of petroleum and petroleum products into water bodies (Eisler 1987). These compounds may also accumulate in sediments along the river bottom. PAHs in the sediments may be suspended by trenching, pipelaying, and backfilling activities during river crossings conducted in the course of construction of the pipeline. Resuspension of these compounds could result in impacts to aquatic organisms, including those listed fish species under consideration in this biological opinion.

During 1990 and 1991, the Service collected bile samples for PAH analysis from several species of fish in the San Juan River and from migratory birds throughout the Farmington-Bloomfield area. Normal concentrations of naphthalene in fish bile should be less than 10,000 ng/g wet weight (parts per billion), phenanthrene less than 3,000 ng/g wet weight, and benzo(a)pyrene less than 100 ng/g wet weight (National Oceanic and Atmospheric Administration 1989). Bile samples from fish collected during the spring and summer, 1990, indicated that fish in the San Juan River and Navajo Reservoir were being exposed to high levels of naphthalene, phenanthrene, and benzo(a)pyrene. The highest concentrations of PAH metabolites in fish bile (naphthalene 490,000 ng/g wet weight, phenanthrene 120,000 ng/g wet weight, and benzo(a)pyrene 1,800 ng/g wet weight) were detected in an individual sample of bile from black bullheads collected in the San Juan River downstream from the confluence with the Animas River. These data strongly suggest that the San Juan River is heavily impacted by PAHs. Because of the results received from the 1990 spring and summer investigations, bile samples were again collected from several species of fish in the San Juan River during November 1990. Bile samples from flannelmouth suckers (Catostomas latipinnis), taken from seven sampling stations along the river, were analyzed individually for PAH metabolites. Flannelmouth suckers were used as a surrogate species for the razorback sucker to determine the later species' potential exposure. There was no significant increase in the concentration of naphthalene metabolites in flannelmouth sucker bile collected from below the Hammond Irrigation project

(Station A) to the Mancos River (Station G). However there was a significant difference in the concentrations of phenanthrene and benzo(a)pyrene in sucker bile between stations. No correlation between specific river reach and PAH concentrations was noted.

The lower molecular weight PAH compounds, such as naphthalene, and phenanthrene, have significant acute toxicity to some organisms (Krahn et.al. 1984, 1986; Zitko 1975). Higher molecular weight PAHs such as benzo(a)pyrene have been found to cause mutations and cancer in aquatic and terrestrial organisms (Eisler 1987). An adequate body of information is lacking concerning PAH contamination in the San Juan River and the potential affects on aquatic resources of the river caused by the presence of the compounds. However the higher incidence of tumors and hyperplastic diseases in aquatic organisms from PAH contaminated environments raises concern regarding potential affects of PAHs introduced into the San Juan River by disturbing bottom sediments in the tributaries of that river.

Additional concerns include potential contamination from hydrostatic testing of the pipeline and introduction of contaminants from the pipeline in the event of a break in the line. Volatile organic compounds and metal particles may be washed out of the pipeline and into rivers during hydrostatic testing. In addition, hazardous organic wastes are found in the pipelines themselves as a result of gas processing and transport (Eiceman 1986), and may enter the river system if a break in the pipeline occurs.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Endangered Species Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term conservation recommendations has been defined as suggestions of the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.

1. Oil and gas exploration, coal mining, and hard rock mining have taken place in the San Juan Basin, including the drainages of the La Plata and Animas Rivers in New Mexico and Colorado. There is potential for contamination of sediments in these tributaries of the San Juan River from these activities and from natural occurences. Contaminants also may be unevenly distributed in the sediments and; therefore, we recommend that river bottom sediments at all pipeline crossings on the La Plata and Animas Rivers in New Mexico should be tested for PAH contamination. Inductively coupled plasma (ICP) scans should also be done for potentially toxic metals. Testing protocols should include the following general procedures. Sediment samples should be taken from each side and the middle of the channel. Samples should be collected with stainless steel implements, such as buckets and spoons. Each of the three sediment samples from each crossing should be placed in a labeled, clean, wide-mouth jar, and placed on ice. Strict chain of custody procedures should be followed for handling and shipping to the analytical laboratory. Samples should be taken in time for analysis to take place and be reviewed by the Service's New Mexico Field Office prior to any trenching at the river

crossings. This will allow time for additional recommendations, if necessary, for further sampling of sediments or aquatic organisms. The sample data should be sent to Ms. Anne Cully, 3530 Pan American Highway, NE., Suite D, Albuquerque, NM 87107, (505) 883-7877.

2. Hydrostatic testing water should be tested for volatile organic compounds and metallic particles. Testing and treatment methods should follow general procedures outlined here. The water will be discharged in accordance with applicable effluent limitations, monitoring requirements and other conditions of the discharge permit. The water will be filtered prior to release, and samples will be taken and analyzed for total suspended solids, pH, oil, grease, volatile organic compounds, and toxic metals. The test results will be provided to demonstrate compliance after the water is discharged.

3. Cutoff valves along the pipeline should be as close as possible to the river crossings so that in the event of a pipeline break at the crossings escaping gas and pipeline contaminants will be minimized.

4. These recommendations are not intended to preclude any additional concerns or requirements brought forward by state or Federal regulatory agencies regarding contaminants or water quality.

INCIDENTAL TAKE

Section 9 of the Act, as amended, prohibits any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Under the terms of Section 7(b)(4) and Section 7(0)(2), taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act provided that such taking is in compliance with the incidental take statement.

The Service anticipates that the incidental take to the Colorado squawfish, humpback chub, bonytail chub, and razorback sucker in both the Upper Colorado River Basin and San Juan River Basin associated with this project is zero.

Uinta Basin Hookless Cactus

BASIS FOR OPINION

The Uinta Basin hookless cactus, Sclerocactus glaucus (K. Schum.)L. Benson, is a small barrel shaped cactus 3.0-18.0 cm tall with small pink to purple flowers up to 2.5 cm long. It also has relatively short spines, up to 3.6 cm long, which are hookless. It was listed as threatened on October 11, 1979 (44 FR58870). Because individuals with hooked spines are occasionally found, it has been sometimes treated as a form of the common "fish hook" cactus of the Colorado Plateau, Sclerocactus whipplei (S. parviflorus) , rather than a distinct species (Welsh 1984). However, the most rigorous statistical comparison of the two species, with multivariate analysis, demonstrates that

the two are distinct species, with intermediate individuals in areas transitional between the ranges of the two species (Heil and Porter 1987).

The Uinta Basin hookless cactus has a bimodal distribution with one population in the Uinta Basin in Utah and the other in Colorado. The Colorado population has two sections, one near the town of DeBeque along the Colorado River, and the other along the Gunnison River beginning at Whitewater and extending upstream to about 20 miles east of Delta. The proposed project lies within both Colorado populations. The Uinta Basin hookless cactus generally occurs on river terrace deposits along the rivers or on fine textured sediments overlain by course fragments on mesa tops and slopes. They occasionally occur in fine-textured outwash plains in association with greasewood. Most of the occurrences of the cactus are in mixed desert shrub communities with shadscale, Gardner saltbrush, budsage, Harriman yucca, Mormon tea, broom snakeweed, and galleta grass, with some occurrences in the lower edge of the pinion-juniper woodland. The species elevational range is between 4500 and 5900 feet.

The total documented population within Colorado is 12,000 individuals, with 4,000 in the upper Colorado River population and 8,000 in the Gunnison River population. The documented Uinta Basin population is 10,000 individuals.

Endangered plant surveys of the preferred route were conducted by John Anderson, then with the Service, during the spring of 1991. Fifty-two individuals of the Uinta Basin hookless cactus in 5 separate locations were found within or adjacent to the construction ROW. Three of these occurrences would be bypassed by the proposed pipeline as a result of route modifications. The two remaining occurrences, at approximately mileposts 47.25 and 86, remained within the construction ROW. Since John Anderson's surveys additional surveys were conducted on July 14, 1992 by Jim Ferguson of the BLM. Mr. Ferguson found an additional 5 Uinta Basin hookless cactus at milepost 47.25 and an additional 63 cactus at milepost 86. The first occurrence, on a grassy alluvial bench adjacent to the Colorado River in the upper Colorado River population, at milepost 47.25, consists of 15 individuals in a greasewood, shadscale, budsage plant association (USFWS 1991). The second occurrence, in the Gunnison River population, consists of 73 individuals, at milepost 86, in Mancos Shale adobes with basalt fragments on the surface and shadscale, galleta grass, and woody aster as associated plants (USFWS 1991). Both occurrences are in the midst of larger occurrences of Uinta Basin hookless cactus which have dispersed populations (USFWS 1991). The 88 individuals that may be affected comprise 0.4% of the total documented population of the species, 0.73% of the documented Colorado population, 0.38% of the upper Colorado River population, and 0.91% of the Gunnison River population. Because of the very low numbers and small percentage of the population to be impacted, the pipeline does not constitute a jeopardy to the continued existence of the species. The project also would affect plants in the middle of the species range, rather than more significant colonies at the edge of the range.

CONSERVATION RECOMMENDATIONS

The Service recommends that the procedures described below be followed in order to offset impacts to the Uinta Basin hookless cactus.

1. The 15 affected individuals located at approximately milepost 47.25 near DeBeque should be transplanted to the nearest suitable habitat on public land following accepted transplanting procedures.

2. The 73 affected individuals located at approximately milepost 86 near Kannah Creek should be transplanted to adjacent suitable habitat on public land. When construction is complete, some of the transplants should be re-transplanted back into the disturbed areas, both in the back-filled trench and in the unexcavated areas covered by spoil material during construction.

3. A five year research and monitoring study should be conducted at the Kannah Creek site. Actual study and monitoring design should be jointly determined by the Service and the Bureau of Land Management with input from desert plant community monitoring experts and TransColorado Pipeline or its consultants as appropriate. The research and monitoring should have the following objectives:

a. TRANSPLANT VIABILITY COMPARISON: measure the success of transplants (viability, reproductive vigor) over a 5 year period in comparison to plants in adjacent undisturbed habitat.

b. HABITAT COMPARISON: determine the success of transplanting into:

1. undisturbed adjacent habitat (presumed to be suitable habitat but possibly already sufficiently occupied)

2. the back-filled trench (may be unsuitable habitat due to soil mixing, but presently unoccupied)

3. unexcavated areas that had been covered by spoil material during construction (may still be suitable habitat, but presently unoccupied).

Ute ladies'-tresses

BASIS FOR OPINION

Spiranthes diluvialis (Ute ladies'-tresses) are associated with riparian and wetland areas typically in old stream channels, alluvial terraces, subirrigated meadows, and other sites where the soil is saturated to within 18" of the surface at least temporarily during the spring or summer growing seasons. The orchid is only known from a few scattered locations in Colorado and Utah. One specimen was collected in Nevada but the population is thought to be extinct. It is estimated that it was once common in low elevation riparian areas in Colorado, Utah, and Nevada but it now appears to be very rare. This prompted the Service to list the species as threatened on January 17, 1992 (57 FR 2048-54). The following conservation recommendations may help

the Service to gain a better understanding of this species range and habitat requirements.

CONSERVATION RECOMMENDATIONS

The Ute ladies'-tresses survey guidelines do not require that riparian crossings be surveyed for the TransColorado Gas Transmission Pipeline Project since known or historical records are not present in the pipeline right-of-way. However, the Service recommends that Ute ladies'-tresses surveys be conducted prior to construction at 15 riparian crossings identified by the BLM to have potential for their occurrence. This will help the Service gather important range distribution data whether the orchid is found or not. The current Ute ladies'-tresses survey guidelines, dated November 23, 1992, are attached to this biological opinion. If Ute ladies'-tresses are found in the right-of-way, BLM must reinitiate consultation with the Service.

CONCLUSION

This biological opinion is based upon impacts of the construction of the proposed TransColorado Gas Transmission Pipeline, as described in the final biological assessment, dated September 1992, as submitted by the Bureau of

Land Management. The BLM/USFS should condition its approval documents to retain jurisdiction should Section 7 consultation need to be re-initiated.

Reinitiation of formal consultation is required if the amount or extent of incidental take is exceeded, if new information reveals effects of the action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion, if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion, or if a new species is listed or critical habitat designated that may be effected by the action.

An endangered species subpermit from the Fish and Wildlife Service should be obtained prior to removing and transporting the Uinta Basin hookless cactus. The approved botanist selected for this work must have submitted Form 3-200 "Federal Fish and Wildlife License/Permit Application" and supplemental "Threatened Species" forms. The botanist must have an approved subpermit granted prior to removing any individuals of the Uinta Basin hookless cactus. Copies of the forms and their instructions will be provided to the BLM or their designated representative upon request. A yearly report should be submitted to the Service as directed in the endangered species subpermit.

Thank you for your cooperation in the formulation of this opinion and your interest in conserving endangered species.

Sincerely,

LeRoy W. Carlson
Colorado State Supervisor

Attachments to final B.O.: (Appendix A)

pc: CDOW, Grand Junction
CDOW, Montrose
COE, Grand Junction
FWS/FWE, Grand Junction
FWS/FWE, Salt Lake City
FWS/Ecological Services, Albuquerque, NM

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APPENDIX A

Cooperative Agreement
between
U.S. Department of the Interior
Fish and Wildlife Service
and
National Fish and Wildlife Foundation

I. Background

Three species of fish that inhabit the Colorado River system have been federally listed as endangered: the Colorado squawfish, humpback chub, and bonytail chub. A fourth, the razorback sucker, is currently a candidate for listing. On January 21-22, 1988, the Governors of Utah, Wyoming, and Colorado, the Administrator of the Western Area Power Administration, and the Secretary of the Interior executed a Cooperative Agreement to implement the "Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin" (Recovery Program). The 15-year Recovery Program outlines an aggressive effort to recover the endangered fishes of the Colorado River in a manner that is consistent with Interstate Compacts and State water rights systems. The signing of the Cooperative Agreement also established an Implementation Committee whose purpose is to oversee the Fish and Wildlife Service's (Service) implementation of the Recovery Program. Members of the Implementation Committee include representatives of the States of Colorado, Wyoming, and Utah, the Service, the Bureau of Reclamation, the Western Area Power Administration, and representatives of the water development interests and environmental groups.

The cost for implementing the Recovery Program is estimated at $58.5 million over the 15-year time frame. Contributions by proponents of water projects (Federal, State and private) are expected to provide approximately $9-10 million of these funds, assuming full Compact development over the next 15 years. Water project proponents will make a one-time contribution to the Service in the amount of $10 per acre-foot based on the average annual depletion of projects that complete consultation pursuant to Section 7(a)2 of the Endangered Species Act of 1973, as amended. Payment of the contribution will be specified in the biological opinion for each water project which causes a depletion of water from the Upper Colorado River system. Ten percent of the funds will be payable upon completion of the Federal action which initiated the consultation (e.g., issuance of a 404 permit); the balance will be due at the time construction commences or prior to the depletion becoming effective. Funds from these contributions are to be applied equally to flow acquisition and other priority recovery activities, unless otherwise directed by the Implementation Committee.

In addition, the Recovery Program has a provision for the donation of funds from private parties, including conservation groups. Private donations would be used for priority recovery activities as agreed to by the donor, the Service, and/or the Implementation Committee.

The role of the National Fish and Wildlife Foundation (Foundation) was identified in the Recovery Program. Section 5.5 indicates that all contributed or donated funds accruing from the Recovery Program, regardless of source, will be placed in an interest bearing account, such as those administered by the Foundation, until such time as they are utilized in accordance with the Implementation Committee's approved annual work plan and budget.

II. Purpose and Objectives

The purpose of this Cooperative Agreement is to establish a mechanism and procedures for (1) the transfer of funds contributed by water project proponents and private donors pursuant to the Recovery Program to the Foundation; and (2) the disbursement of said funds from the Foundation to accomplish Colorado River fishes recovery activities. This Cooperative Agreement will facilitate the accomplishment of recovery activities for the rare Colorado River fishes in an efficient and timely manner.

III. Authorities

Fish and Wildlife Coordination Act, 16 U.S.C. Sec. 661;
Fish and Wildlife Act of 1956, 16 U.S.C. Sec. 742f(a)(4); and
National Fish and Wildlife Foundation Establishment Act, 16 U.S.C. Sec. 3703(c)(6).

IV. Term

This Agreement shall take effect upon execution, with only subsequent contributed and donated funds being transferred to the Foundation, and will remain in effect until completion or termination of the Recovery Program, whichever occurs first. The term of the Cooperative Agreement that implements the Recovery Program is 15 years.

V. Specific Obligations of the Parties

To accomplish the purposes and objectives of this Cooperative Agreement, each party agrees to cooperate with the other to fulfill its obligations as herein provided.

A. Service Obligations - The Service will:

1. When this Agreement takes effect, inform water project proponents and potential private donors of the procedures for contributing funds to the Foundation, pursuant to the Recovery Program. Procedures for payment of the contributed funds will be specified in the Biological Opinion for each water project which causes a depletion of water from the Upper Colorado River system, and the Service is responsible for ensuring that private and State water project proponents make payment to the Foundation.

2. Identify, from the list of projects included in the Implementation Committee's approved annual work plan, those that should be funded by the Foundation with Colorado River contributed and donated funds. Use of these funds will be coordinated by the Service, on behalf of the Implementation Committee, with the Foundation. (Attachment 1 identifies the current process and schedule for development of the annual work plan by the Implementation Committee.)

3. Develop, in coordination with the Implementation Committee, requests-for-proposals and/or scopes-of-work for work to be funded with Colorado River contributed/donated funds.

4. Work closely with the Foundation to develop contracts for work to be funded with Colorado River contributed/donated funds.

5. Appoint a technical project officer for all contracts or projects carried out or funded under this Agreement.

6. Appoint an individual who will represent the Service in carrying out its obligations under this Agreement, including authorizing the expenditure of funds by the Foundation.

7. In cases dealing with disbursement of funds for acquiring water rights, provide the Foundation with written direction of the Service's Director or his designee, and a certified resolution of the Implementation Committee recommending allocation of the funds. The resolution will contain the following information:

   a. The specific purpose for which the funds are being disbursed.
   b. A detailed description of the water right to be acquired.
   c. The owner of the water right.
   d. The exact or maximum amount to be expended in acquiring the water right.

8. Coordinate and report upon activities of the Foundation with and to the Colorado River Implementation Committee, including providing an annual accounting to the Implementation Committee for all funds maintained, received, and/or expended pursuant to this Agreement.

9. Continue to maintain separate accounts for funds appropriated by Congress for the acquisition of water rights, and contributed/donated funds received prior to the implementation of this Agreement. Use of funds in these accounts will be coordinated by the Service, on behalf of the Implementation Committee, with those maintained by the Foundation under this Agreement.

B. Foundation Obligations - The Foundation will:

1. Serve as the Service's designated agent for accepting and administering contributed and donated funds acquired pursuant to the Recovery Program, and disbursing these funds as approved by the Service and the Implementation Committee.

2. Maintain these funds in a specific account, separate from other Foundation accounts. Interest accruing to this Foundation account will be used for the purpose for which the account was established.

3. Develop and/or issue, in coordination with the Service, contracts for work to be funded with Colorado River contributed/donated funds as identified in the approved Implementation Committee work plan.

4. Appoint an individual who will represent the Foundation in carrying out its obligations under this Agreement.

5. Solicit and accept private donations to finance and implement recovery activities, including the acquisition of water rights, pursuant to the Recovery Program. This obligation is contingent upon approval of the Foundation's Board of Directors and the Service, and is separate from Congressional appropriations coming to the Service for acquisition of water rights.

6. Appoint a technical project officer for all contracts or projects carried out or funded under this Agreement.

VI. Financial Administration

1. The Foundation will be reimbursed for actual expenses associated with carrying out its obligations under this Agreement (not to exceed two percent of the funds received each year). The Foundation will provide a quarterly statement which itemizes its expenses. Upon review (which will not exceed 30 days), the Service will authorize the Foundation to debit the contributed fund account to reimburse approved expenses.

2. The Foundation will prepare and submit to the Service a semiannual report by July 15 and December 15 of each year, which itemizes all funds maintained, deposited, accrued, and disbursed from the account established pursuant to this Agreement.

VII. Project Officers

For the Service (and on behalf of the Implementation Committee):

John Hamill, Program Director
Colorado River Endangered
Fishes Recovery Program
U.S. Fish and Wildlife Service
P.O. Box 25486, DFC
Denver, CO 80225
(303) 236-7398, FTS 776-7398

For the Foundation:

Whitney Tilt
Project Manager
National Fish and Wildlife
Foundation
The Bender Building
1120 Connecticut Ave NW
Washington, D.C. 20036
(202) 857-0166

VIII. Special Terms and Conditions

1. The Foundation will, in coordination with the Service, select the most appropriate investment option for the contributed/donated funds. Primary consideration will be given to selecting extremely safe investments with the highest possible yield. Interest and/or dividends accruing to the account shall be available for the purposes for which the funds were contributed or donated.

2. Funds may be dispersed by the Foundation for purposes not included in the Implementation Committee's annual work plan at the written direction of the Service's designated representative for this agreement and concurrence of the Chairman of the Implementation Committee.

IX. Amendments

Amendments to this Agreement may be proposed by either party, and shall become effective only upon being reduced to a written instrument executed by both parties.

X. Termination

This Agreement may be terminated by either party upon 90 days written notice to the other. Upon receipt of such written notice, the Foundation will provide an accounting of remaining funds and outstanding contractual obligations of funds. In the case of termination, the Service will make arrangements for transferring the funds administered by the Foundation to another entity, or renegotiate an alternative agreement with the Foundation.

XI. General Provisions

The U.S. Fish and Wildlife Service General Provisions for Grant and Cooperative Agreements, as attached, shall be applicable to this Agreement.

In witness whereof, each party has caused this Agreement to be executed by an authorized official on the day and year set forth below their signature.

National Fish and Wildlife Foundation

BY _____

TITLE Executive Director

DATE 5/17/89

U.S. Fish and Wildlife Service

BY _____
GALEN L. BUTERBAUGH

TITLE Regional Director

DATE JUN 14 1989

TRANSCOLORADO
GAS TRANSMISSION COMPANY

David C. Flaim, Sr. Coordinator
of Environmental Affairs

November 30, 1992

Mr. LeRoy W. Carlson
Colorado State Supervisor
U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
730 Simms Street, Suite 290
Golden, Colorado 80401

RE: TransColorado Pipeline Project: Final Biological Opinion

Dear Mr. Carlson:

The U.S. Fish & Wildlife Service (Service) has indicated that TransColorado Gas Transmission Company (TransColorado) should implement the conservation recommendations listed in the final biological opinion. The term conservation recommendations is defined as suggestions of the Service to minimize or avoid adverse effects of the TransColorado project on listed species or critical habitat.

TransColorado has not seen an official copy of the final biological opinion; however, the Bureau of Land Management has faxed segments of the biological opinion which identifies the conservation recommendations. Nine conservation recommendations are identified in the final biological opinion. Four apply to the San Juan Basin in New Mexico, one applies to incidental take, three apply to the Uinta Basin Hookless Cactus and one applies to the Ute Ladies'-Tresses orchid.

TransColorado agrees with the conservation recommendations with the understanding that mutually agreed upon modifications may become necessary after final engineering design.

MAILING ADDRESS:
POST OFFICE BOX 281304
LAKEWOOD, COLORADO 80228-9304

PHONE: (303) 989-2560
FAX: (303) 980-9044

STREET ADDRESS:
12055 W. 2ND PLACE
LAKEWOOD, COLORADO 80228-1506

If you have any questions or require additional information, please call me at (801)530-2522.

Sincerely,

David C. Flaim

David C. Flaim

ATTACHMENT F

COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

November 30, 1992

Mr. Alan L. Kesterke
District Manager
U. S. Department of the Interior
Bureau of Land Management
2465 South Townsend
Montrose, Colorado 81401

Dear Mr. Kesterke:

Thank you for the opportunity to review Alpine Archaeological Consultants, Inc.'s revised report entitled Treatment Plan and Research Design for the Cultural Resource Mitigation Phase of the Planned TransColorado Natural Gas Pipeline, Western Colorado and Northwestern New Mexico.

We find this plan acceptable, and we look forward to the successful implementation of this project.

Sincerely,

Susan M. Collins, SHPO

Susan M. Collins
State Archaeologist

SMC:ng

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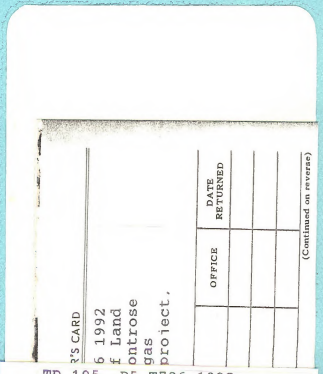

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U. S. Bureau of Land
Management. Montrose
TransColorado gas
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Bureau of Land Management
Montrose District Office
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Montrose, Colorado 81401

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Bureau of Mines, MS-5090
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